CDX-A30RF

SERVICE MANUAL

E Model
US Model

CDX-A30RF is made up of Compact Disc automatic changer CDX-A30 and the remote commander with a built-in FM stereo RF modulator RM-X1F.
For Compact Disc automatic changer, please refer to CDX-A30 service manuals (9-953-731-□□) previously issued.

There is only the information of RM-X1F on this service manual.

The parts which differ from CDX-A30 (expect for RM-X1F) are as follows:

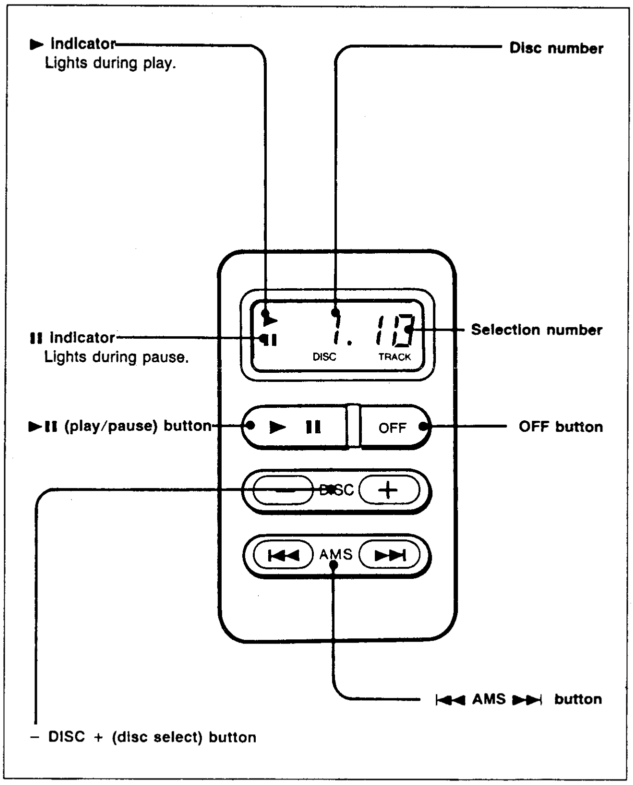
*3-348-795-01	LABEL, MODEL NUMBER
*3-348-797-01	INDIVIDUAL CARTON
*3-751-377-21	(US)...MANUAL, INSTRUCTION

RM-X1F SPECIFICATIONS

Transfer frequency
88.3 MHz, 88.7 MHz
Mounting dimensions
Commander:
Approx. 48 × 80 × 16 mm
(w/h/d)
($1\frac{15}{16} \times 3\frac{1}{4} \times \frac{21}{32}$in.)
Hide-away unit:
Approx. 70 × 27 × 110 mm
(w/h/d)
($2\frac{7}{8} \times 1\frac{1}{8} \times 4\frac{3}{8}$ in.)
Weight Commander: Approx. 110 g
(3.9 oz.)
Hide-away unit: Approx. 350 g
(12.3 oz.)
Accessories supplied
Velcro tape (1 set)

Design and specifications subject to change without notice.

LOCATION AND FUNCTION OF CONTROLS


► Indicator
Lights during play.
Disc number
1. 10
DISC
TRACK
II Indicator
Lights during pause.
Selection number
►II (play/pause) button
OFF
OFF button
– DISC +
|◄◄ AMS ►►|
|◄◄ AMS ►►| button
– DISC + (disc select) button

COMPACT DISC PLAYER

SONY®

Connections

Caution

- Before making connections disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the yellow, and red power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- Run all ground wires to a common ground point.

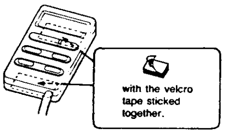
Installation of the Remote Commander

Before Installation

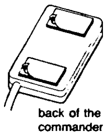
Choose the mounting location carefully so that the unit will not interfere with normal driving functions and so that the unit will not be exposed to direct sunlight or hot air from the heater.

Attach the commander on the dashboard with the supplied velcro tape.

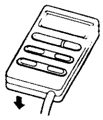
1 Paste the velcro tape on the back of the commandar.


with the velcro tape sticked together.

2 Detach the paper.


back of the commander

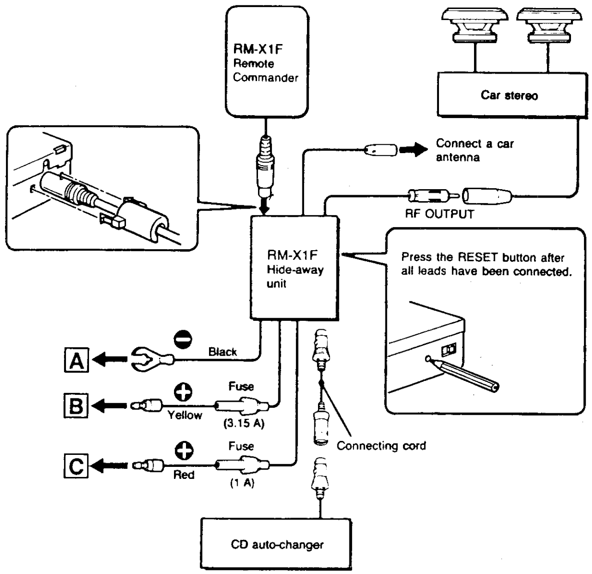
3 Attach the commander on the dash board.



Installation of the Hide Away Unit

Attach the unit on the carpet with the supplied velcro tape.

Connection Diagram


RM-X1F Remote Commander
Car stereo
Connect a car antenna
RF OUTPUT
RM-X1F Hide-away unit
Press the RESET button after all leads have been connected.
A
Black
B
Fuse
Yellow
(3.15 A)
C
Fuse
Red
(1 A)
Connecting cord
CD auto-changer

A	to a metal point of the car
B	to the +12 V power terminal which is energized at all times
C	to the +12 V power terminal which is energized in the accessory position of the ignition key

SECTION 1
ELECTRICAL ADJUSTMENT

[NOTE ON REPAIRING]

Don't move VR2 on replacing IC and others.

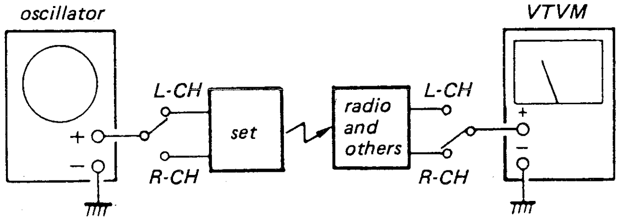
2-1. OSCILLATING FREQUENCY ADJUSTMENT

1) Connect a frequency counter to the output of BPF1.
2) Adjust with TC2 or TC3 so that the reading on the frequency counter becomes the value.

Adjusting Element	Adjusting Value
TC3	88.290 – 88.310 MHz
TC2	88.690 – 88.710 MHz

2-2. SEPARATION ADJUSTMENT

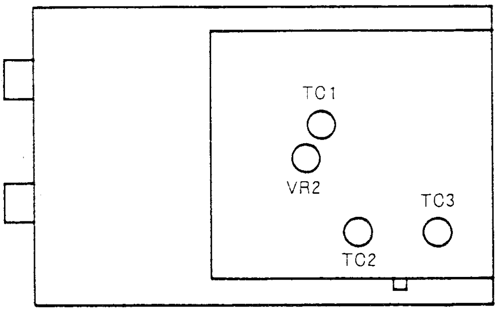
Connection:


oscillator
VTVM
L-CH
+
–
R-CH
set
radio and others
L-CH
R-CH
+
–

Adjusting Procedure:

On adjusting, printed circuit boards should be installed in the case.

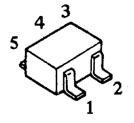
1) Apply a signal from an oscillator to the set.
2) Adjust with TC1 so as to minimize the R-CH output on radio and others.


TC1
VR2
TC3
TC2

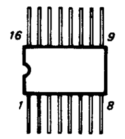
SECTION 2
DIAGRAMS

- **Remote Commander Section Semiconductor Lead Layouts**

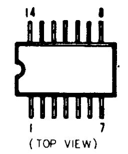
TC4S81F



TC4050BF

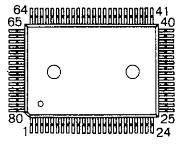


TC4069UBF



14
8
1
7
(TOP VIEW)

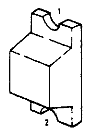
µPD7514G-238



64
41
65
40
80
25
1
24

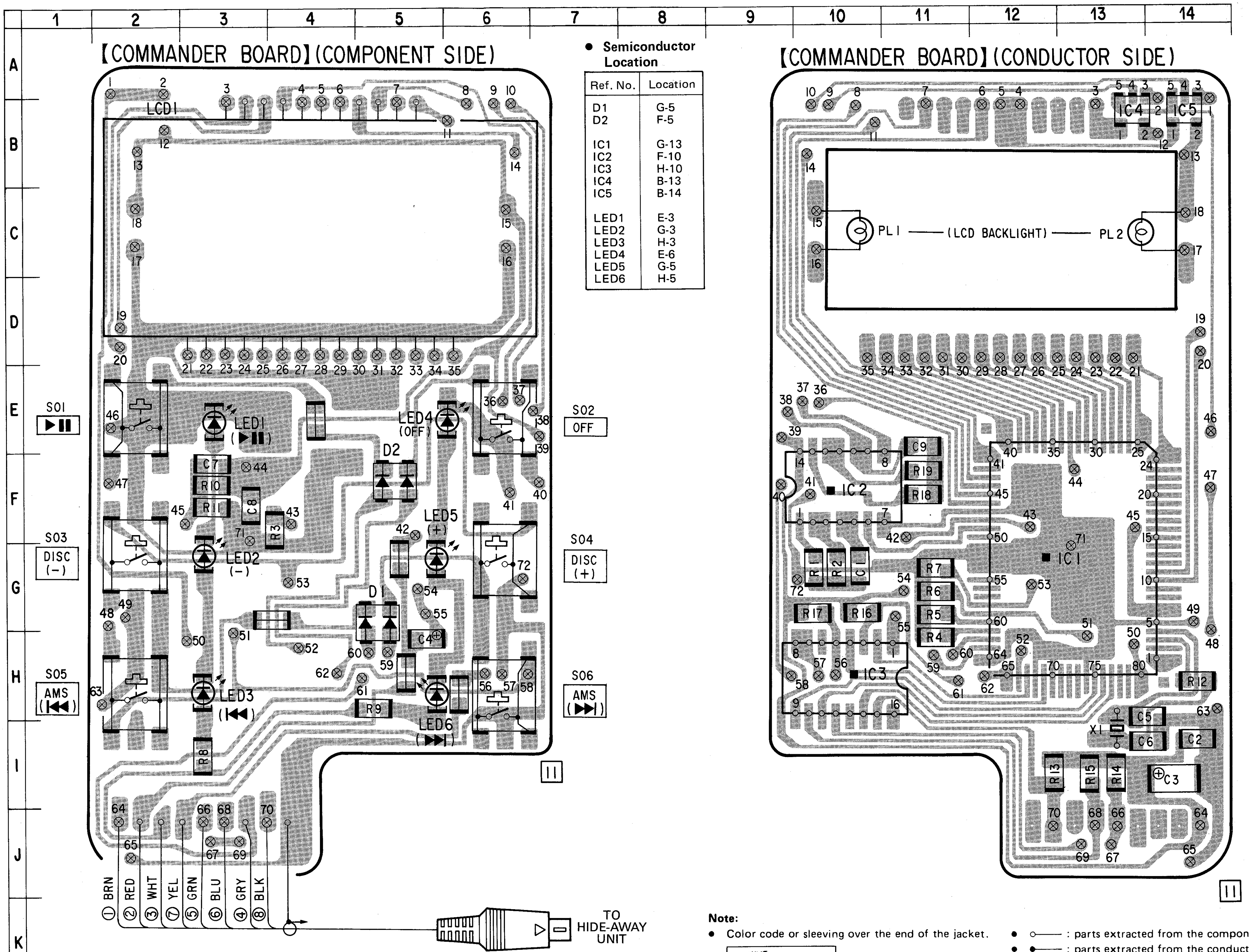
MARKING SIDE VIEW

CL-50Y-CD



1. Anode
2. Cathode

2-1. REMOTE COMMANDER SECTION PRINTED WIRING BOARD



1
2
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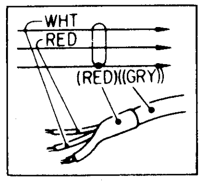
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
【COMMANDER BOARD】(COMPONENT SIDE)
LCD1
LED1 (▶II)
LED2 (−)
LED3 (I◀◀)
LED4 (OFF)
LED5 (+)
LED6 (▶▶I)
D1
D2
C7
C8
C4
R10
R11
R3
R9
R8
S01 ▶II
S02 OFF
S03 DISC (−)
S04 DISC (+)
S05 AMS (I◀◀)
S06 AMS (▶▶I)
① BRN
② RED
③ WHT
⑦ YEL
⑤ GRN
⑥ BLU
④ GRY
⑧ BLK
TO HIDE-AWAY UNIT
11
【COMMANDER BOARD】(CONDUCTOR SIDE)
IC1
IC2
IC3
IC4
IC5
PL1 —— (LCD BACKLIGHT) —— PL2
C1
C2
C3
C5
C6
C9
R1
R2
R4
R5
R6
R7
R12
R13
R14
R15
R16
R17
R18
R19
X1
11

- **Semiconductor Location**

Ref. No.	Location
D1	G-5
D2	F-5
IC1	G-13
IC2	F-10
IC3	H-10
IC4	B-13
IC5	B-14
LED1	E-3
LED2	G-3
LED3	H-3
LED4	E-6
LED5	G-5
LED6	H-5

Note:

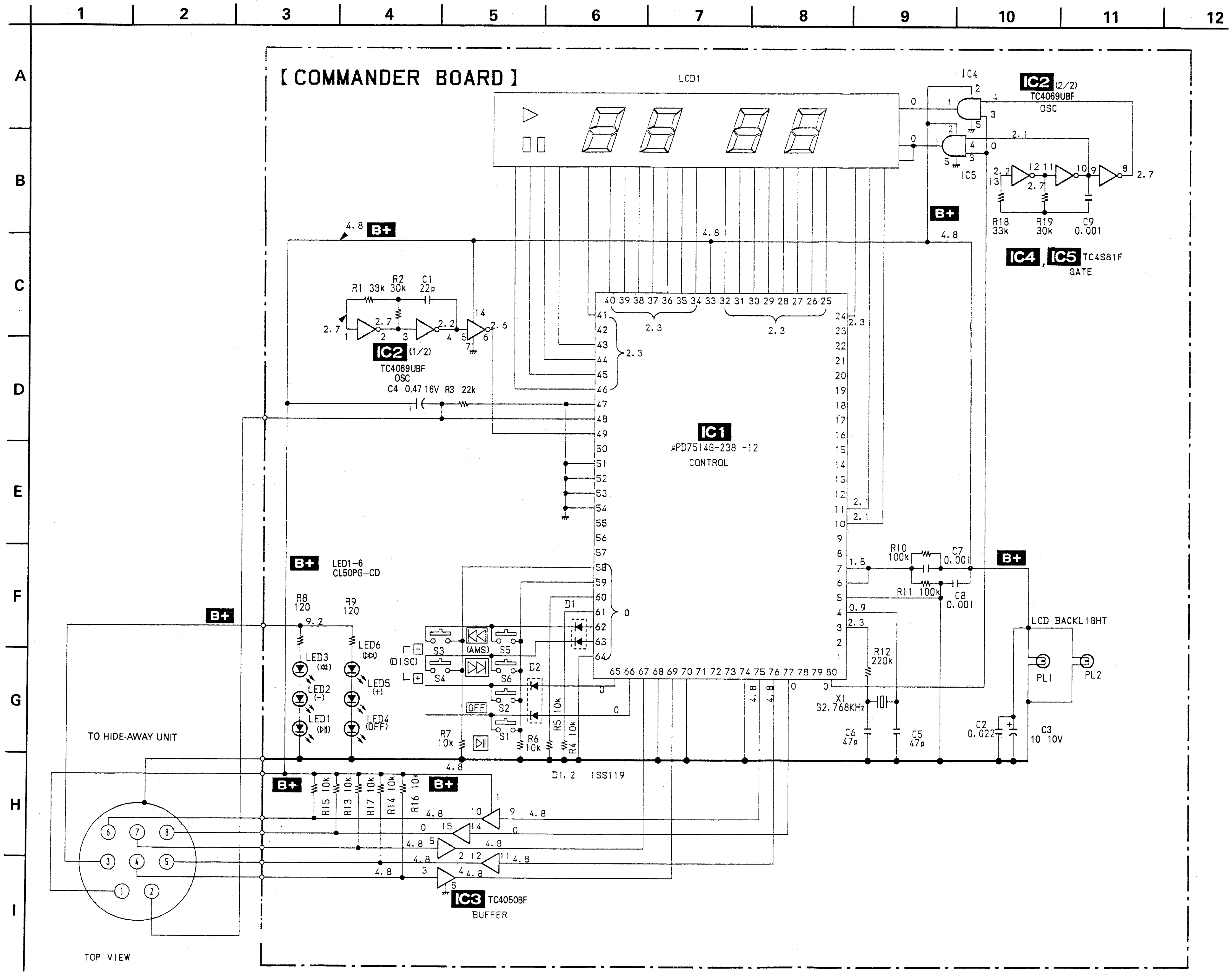
- Color code or sleeving over the end of the jacket.



WHT
RED
(RED)((GRY))

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▨ : Pattern on the side which is seen.

2-2. REMOTE COMMANDER SECTION SCHEMATIC DIAGRAM


1
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11
12
A
B
C
D
E
F
G
H
I
[COMMANDER BOARD]
LCD1
IC1
μPD7514G-238 -12
CONTROL
IC2 (1/2)
TC4069UBF
OSC
IC2 (2/2)
TC4069UBF
OSC
IC4
IC5
IC4, IC5 TC4S81F
GATE
IC3 TC4050BF
BUFFER
R1 33k
R2 30k
C1 22p
C4 0.47 16V
R3 22k
R18 33k
R19 30k
C9 0.001
R10 100k
R11 100k
C7 0.001
C8 0.001
R12 220k
X1 32.768KHz
C6 47p
C5 47p
C2 0.022
C3 10 10V
LCD BACKLIGHT
PL1
PL2
LED1-6
CL50PG-CD
R8 120
R9 120
LED3
LED2
LED1
LED6
LED5
LED4
(DISC)
(AMS)
S1
S2
S3
S4
S5
S6
OFF
D1
D2
D1, 2 1SS119
R7 10k
R6 10k
R5 10k
R4 10k
R15 10k
R13 10k
R17 10k
R14 10k
R16 10k
B+
TO HIDE-AWAY UNIT
TOP VIEW
4.8
2.7
2.3
2.1
1.8
0.9
9.2
2.6
2.2
0

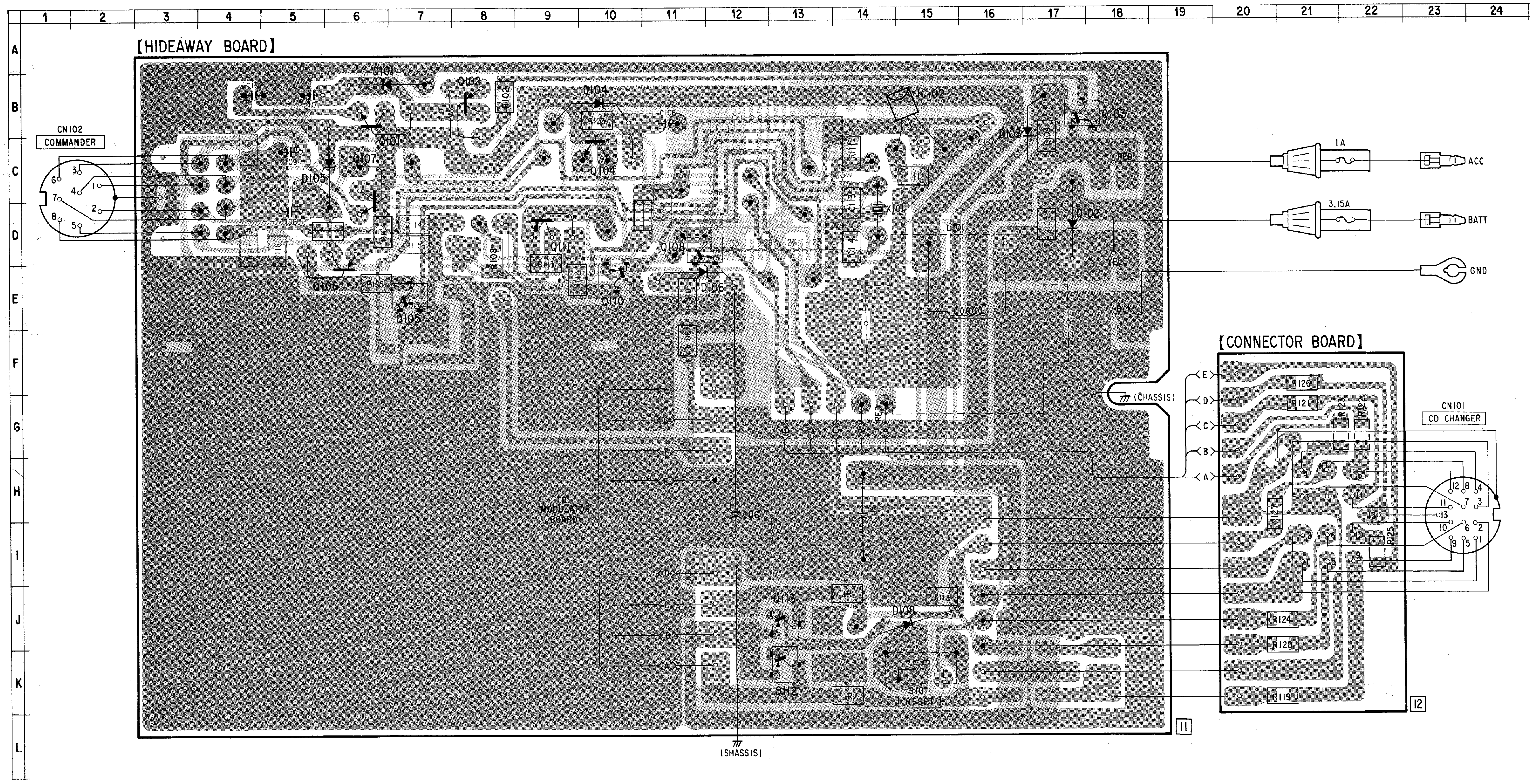
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- Power voltage is dc 5 V and fed with regurated dc power supply from Hide-away unit.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S01	▶ II	OFF
S02	OFF	OFF
S03	DISC (−)	OFF
S04	DISC (+)	OFF
S05	AMS (⏮)	OFF
S06	AMS (⏭)	OFF

Serial No.; 109,901 and later

2-3. NEW TYPE HIDEAWAY UNIT HIDEAWAY PRINTED WIRING BOARD • See page 11 for Semiconductor Lead Layouts.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
A B C D E F G H I J K L
[HIDEAWAY BOARD]
CN102
COMMANDER
D101
Q102
R102
D104
R103
C106
IC102
Q103
C102
C101
R101
Q101
D103
C107
C104
R118
C109
Q107
Q104
R111
RED
D105
C113
C111
X101
IC101
C108
R114
R115
R104
R108
Q111
R113
Q108
D102
R107
L101
C114
R105
R117
R116
Q106
Q105
R112
Q110
R109
D106
YEL
BLK
R106
(CHASSIS)
TO MODULATOR BOARD
C116
C105
Q113
JR
C112
D108
Q112
S101
RESET
(SHASSIS)
1A
3.15A
ACC
BATT
GND
[CONNECTOR BOARD]
R126
R121
R123
R122
R127
R125
R124
R120
R119
CN101
CD CHANGER
11
12

Note on Mounting Diagram:

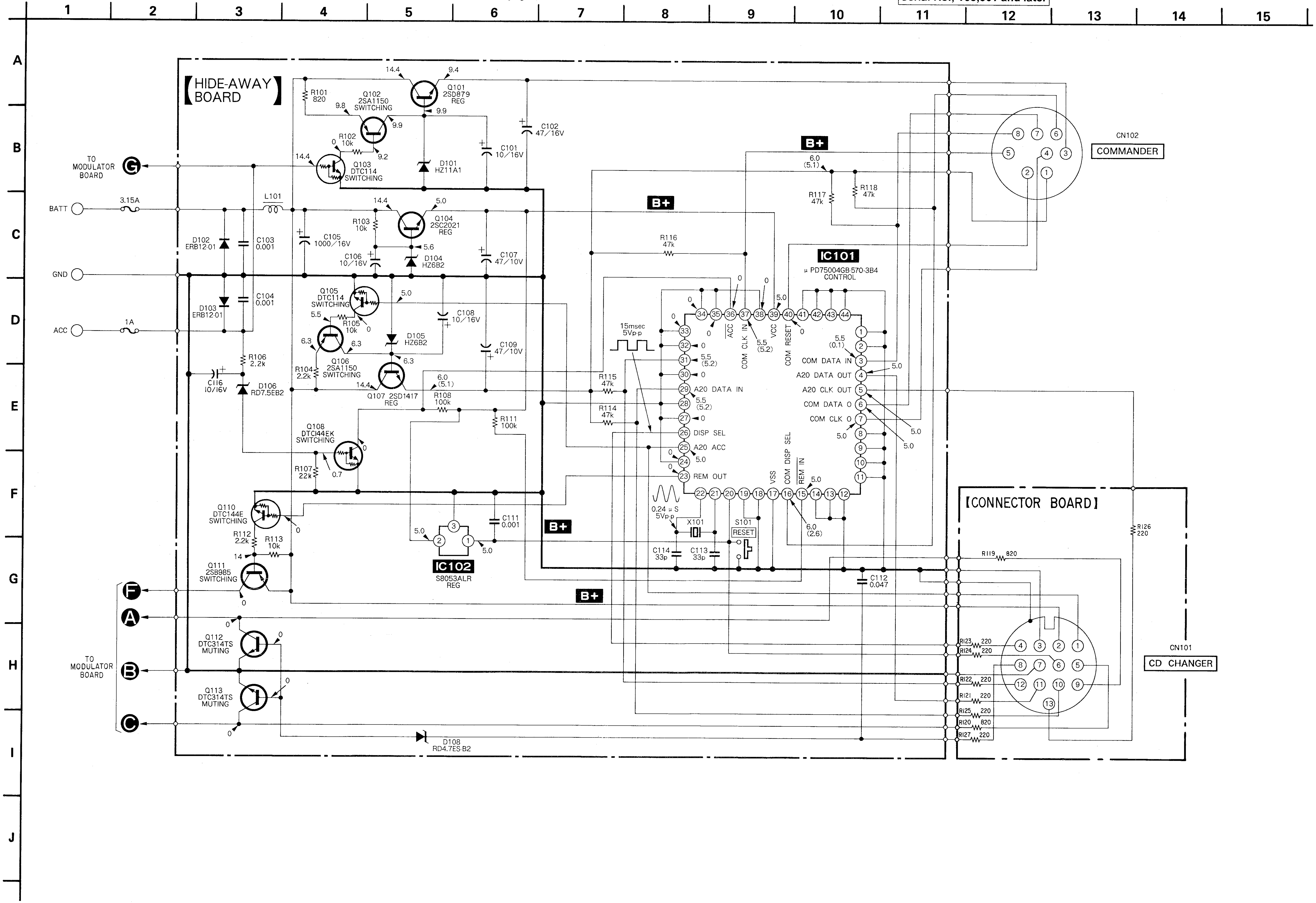
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- ☐ : Chip components extracted from the rear side.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	B-6	Q101	B-6
D102	D-17	Q102	B-8
D103	C-17	Q103	B-17
D104	B-10	Q104	C-10
D105	C-6	Q105	E-7
D106	E-11	Q106	D-6
D108	J-15	Q107	C-6
		Q108	D-11
IC101	C-13	Q110	E-10
IC102	C-15	Q111	D-9
		Q112	K-13
		Q113	J-13

2-4. NEW TYPE HIDEAWAY UNIT HIDEAWAY BOARD SCHEMATIC DIAGRAM • See page 11 for notes.

Serial No.; 109,901 and later


1
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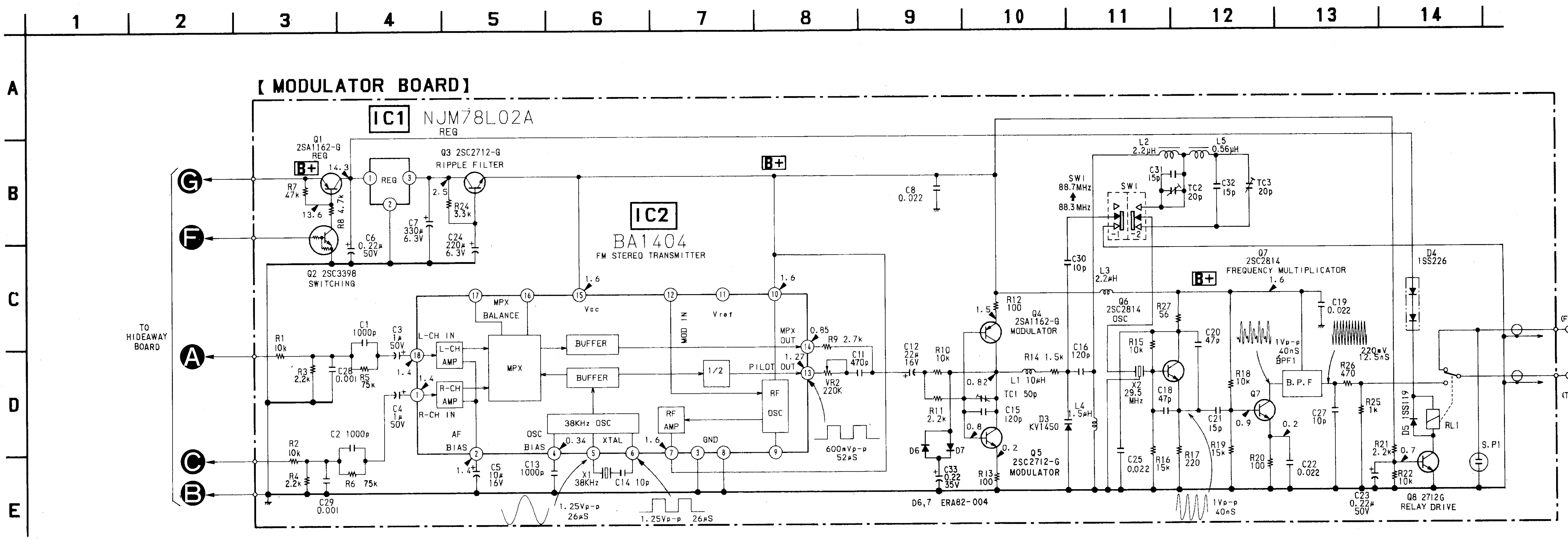
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
HIDE-AWAY BOARD
TO MODULATOR BOARD
G
BATT
3.15A
GND
ACC
1A
L101
D102 ERB12-01
C103 0.001
D103 ERB12-01
C104 0.001
R106 2.2k
C116 10/16V
D106 RD7.5EB2
R101 820
Q102 2SA1150 SWITCHING
Q101 2SD879 REG
14.4
9.4
9.8
9.9
R102 10k
9.2
Q103 DTC114 SWITCHING
D101 HZ11A1
C101 10/16V
C102 47/16V
R103 10k
Q104 2SC2021 REG
5.0
5.6
C105 1000/16V
C106 10/16V
D104 HZ6B2
C107 47/10V
Q105 DTC114 SWITCHING
R105 10k
Q106 2SA1150 SWITCHING
R104 2.2k
6.3
D105 HZ6B2
C108 10/16V
Q107 2SD1417 REG
6.0 (5.1)
R108 100k
C109 47/10V
R111 100k
Q108 DTC144EK SWITCHING
R107 22k
0.7
Q110 DTC144E SWITCHING
R112 2.2k
R113 10k
Q111 2SB985 SWITCHING
C111 0.001
IC102 S8053ALR REG
B+
F
A
B
C
Q112 DTC314TS MUTING
Q113 DTC314TS MUTING
D108 RD4.7ES B2
TO MODULATOR BOARD
R116 47k
R115 47k
R114 47k
15msec 5Vp-p
IC101 μ PD75004GB-570-3B4 CONTROL
ACC
COM CLK IN
VCC
COM RESET
A20 DATA IN
DISP SEL
A20 ACC
REM OUT
COM DATA IN
A20 DATA OUT
A20 CLK OUT
COM DATA O
COM CLK O
VSS
COM DISP SEL
REM IN
5.5 (5.2)
5.5 (0.1)
6.0 (2.6)
0.24 μ S 5Vp-p
X101
C114 33p
C113 33p
S101 RESET
C112 0.047
R117 47k
R118 47k
6.0 (5.1)
CN102 COMMANDER
CONNECTOR BOARD
R119 820
R126 220
R123 220
R124 220
R122 220
R121 220
R125 220
R120 820
R127 220
CN101 CD CHANGER

2-5. NEW TYPE HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD SCHEMATIC DIAGRAM

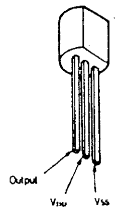
Serial No.; 109,901 and later


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E
[MODULATOR BOARD]
IC1 NJM78L02A REG
Q1 2SA1162-G REG
Q3 2SC2712-G RIPPLE FILTER
IC2 BA1404 FM STEREO TRANSMITTER
Q2 2SC3398 SWITCHING
TO HIDEAWAY BOARD
G
F
A
C
B
B+
R7 47k
R8 4.7k
C6 0.22µ 50V
C7 330µ 6.3V
R24 3.3k
C24 220µ 6.3V
C8 0.022
C1 1000p
C3 1µ 50V
R1 10k
R3 2.2k
C28 0.001
R5 75k
C4 1µ 50V
R2 10k
C2 1000p
R4 2.2k
R6 75k
C29 0.001
MPX BALANCE
L-CH IN
L-CH AMP
R-CH AMP
R-CH IN
MPX
BUFFER
BUFFER
AF BIAS
OSC BIAS
38KHz OSC
XTAL
RF AMP
GND
1/2
PILOT OUT
MPX OUT
MOD IN
Vref
Vcc
RF OSC
C5 10µ 16V
C13 1000p
X1 38KHz
C14 10p
R9 2.7k
C11 470p
VR2 220K
600mVp-p 52µS
1.25Vp-p 26µS
1.25Vp-p 26µS
C12 22µ 16V
R10 10k
R11 2.2k
D6
D7
C33 0.22 35V
D6,7 ERA82-004
R12 100
Q4 2SA1162-G MODULATOR
R14 1.5k
L1 10µH
TC1 50p
C15 120p
D3 KV1450
C16 120p
L4 1.5µH
Q5 2SC2712-G MODULATOR
R13 100
C30 10p
L3 2.2µH
SW1 88.7MHz 88.3MHz
L2 2.2µH
L5 0.56µH
C31 15p
TC2 20p
C32 15p
TC3 20p
Q6 2SC2814 OSC
R27 56
R15 10k
X2 29.5MHz
C18 47p
C20 47p
C25 0.022
R16 15k
R17 220
R19 15k
C21 15p
1Vp-p 40nS
Q7 2SC2814 FREQUENCY MULTIPLICATOR
C19 0.022
BPF1
220mV 12.5nS
R26 470
R18 10k
B.P.F
R20 100
C22 0.022
C27 10p
R25 1k
D4 1SS226
D5 1SS119
RL1
R21 2.2k
R22 10k
C23 0.22µ 50V
Q8 2712G RELAY DRIVE
S.P1
RF IN (FROM CAR ANT)
RF OUT (TO CAR RADIO)

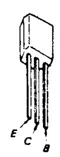
• HIDEAWAY UNIT HIDEAWAY BOARD SEMICONDUCTOR LEAD LAYOUTS AND NOTES

• Semiconductor Lead Layouts

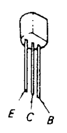
S-8053ALR


Output
V_DD
V_SS

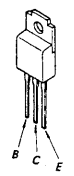
2SA1115P



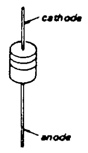
2SB985-T
2SD879



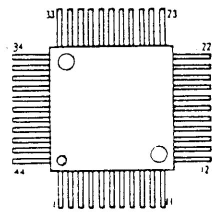
2SD1417



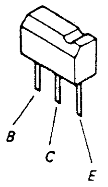
RD4.7ESB2
RD5.6ESB2
RD7.5ESB2
RD9.1ESB2


cathode
anode

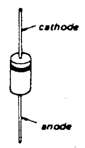
µPD75004GB-570-3B4


33
23
34
22
44
12

2SC2021



10E-2


cathode
anode

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Power voltage is dc 14.4 V and fed with regurated dc power supply from ACC and BATT terminals.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : Without Remote Commander
  ( ) : Connected with Remote Commander
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.

• HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD NOTE ON SCHEMATIC DIAGRAM

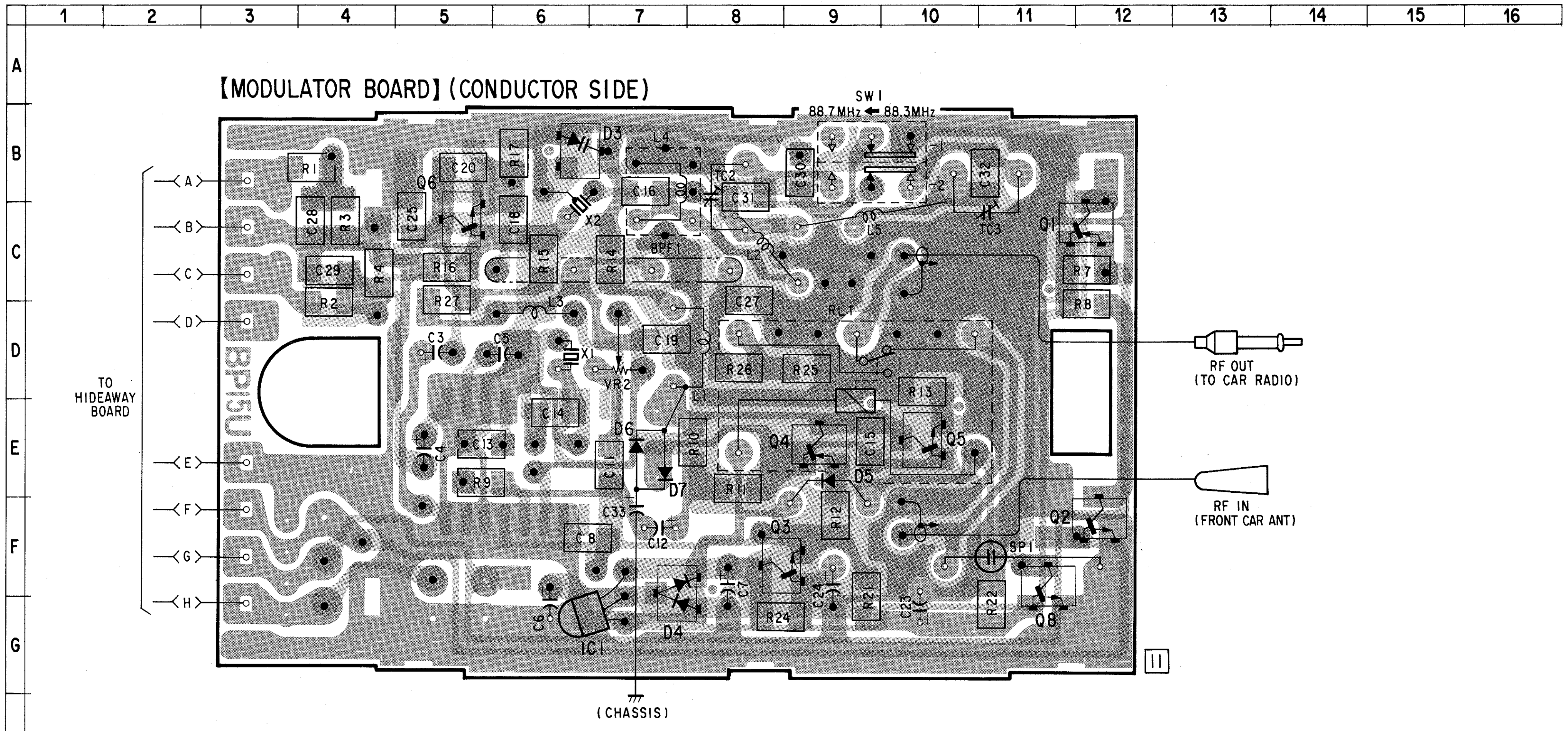
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Power voltage is dc 14.4 V and fed with regurated dc power supply from ACCESSORY terminal and REMOTE IN terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.

• Semiconductor Location

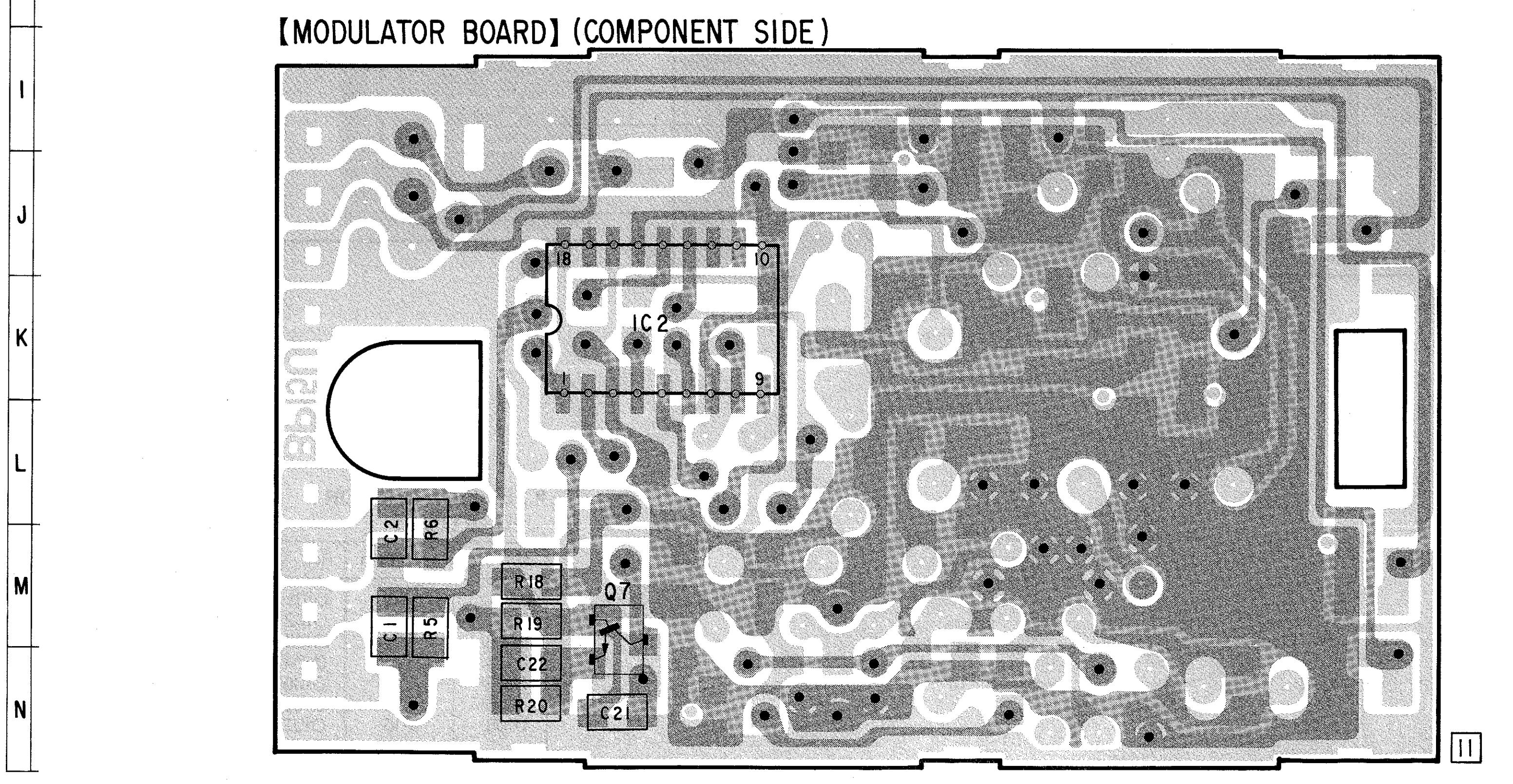
Ref. No.	Location
D3	B-6
D4	F-7
D5	E-9
D6	E-7
D7	E-7
IC1	F-7
IC2	K-6
Q1	B-11
Q2	F-12
Q3	F-8
Q4	E-9
Q5	E-10
Q6	B-5
Q7	M-5
Q8	F-11

2-6. NEW TYPE HIDEAWAY UNIT FM STEREO RF MODULATOR PRINTED WIRING BOARD

【MODULATOR BOARD】(CONDUCTOR SIDE)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
SW1
88.7MHz ← 88.3MHz
TO HIDEAWAY BOARD
A
B
C
D
E
F
G
H
R1
C20
R17
D3
L4
C16
TC2
C31
C30
C32
Q6
C28
R3
C25
C18
X2
L5
TC3
Q1
C29
R4
R16
R15
R14
BPF1
L2
R7
R2
R27
L3
C27
R8
RL1
C3
C5
X1
C19
VR2
R26
R25
BP15U
C14
L1
R13
C4
C13
D6
C11
R10
Q4
C15
Q5
R9
D7
R11
D5
C33
R12
C12
Q3
Q2
C8
SP1
C6
C7
C24
R21
C23
R22
IC1
D4
R24
Q8
11
(CHASSIS)
RF OUT
(TO CAR RADIO)
RF IN
(FRONT CAR ANT)

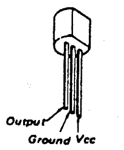
【MODULATOR BOARD】(COMPONENT SIDE)


H
I
J
K
L
M
N
18
10
IC2
9
BP15U
C2
R6
R18
Q7
C1
R5
R19
C22
R20
C21
11

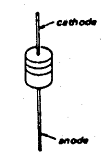
- **HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD SEMICONDUCTOR LEAD LAYOUTS AND NOTES ON PRINTED WIRING BOARD**

- **Semiconductor Lead Layouts**

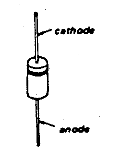
NJM178L02


Output
Ground
Vcc

ERA82-004
1SS119


cathode
anode

10E-2


cathode
anode

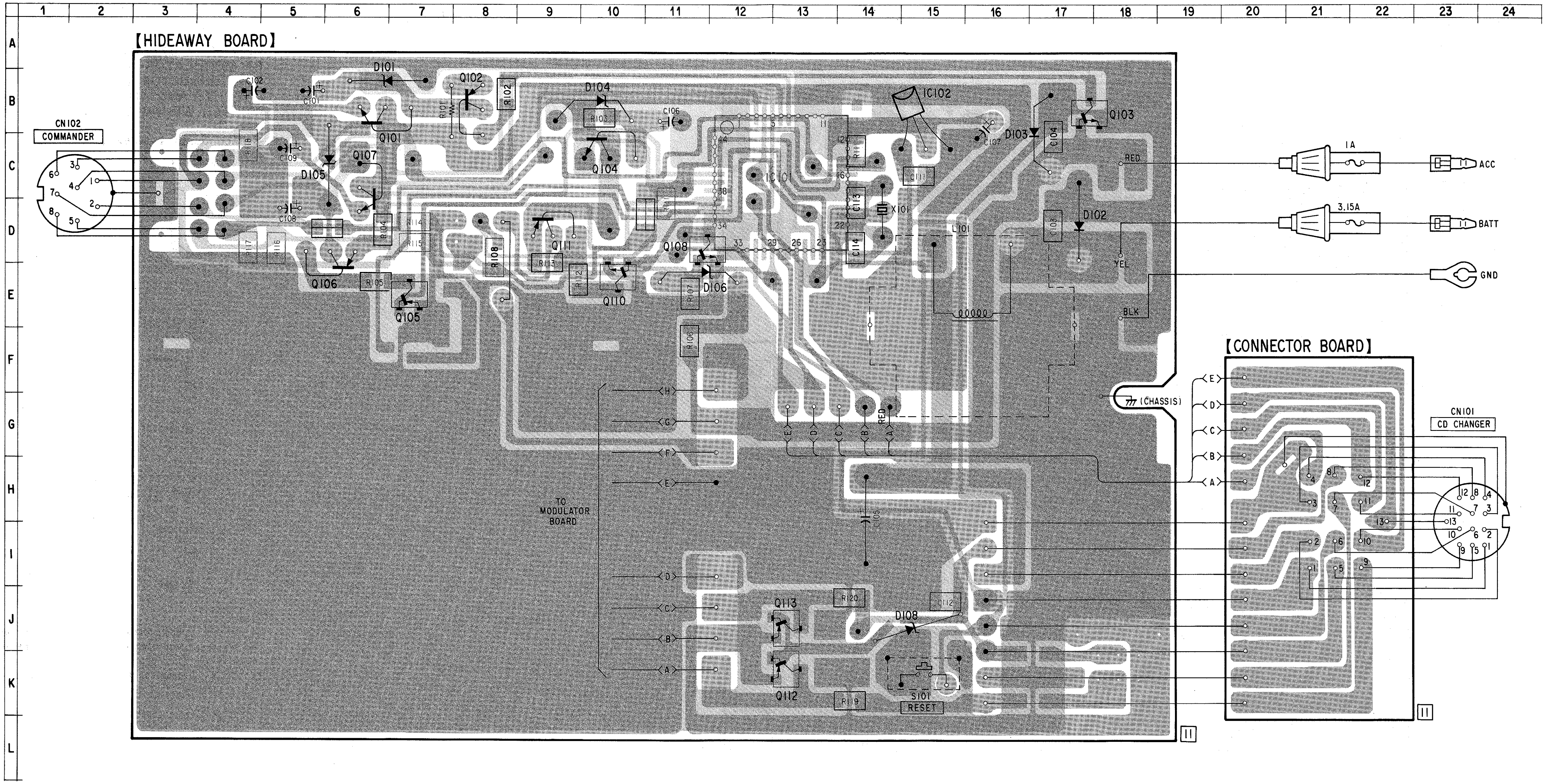
Note:

- o—— : parts extracted from the component side.
- •—— : parts extracted from the conductor side.
- ● : Through hole.
- ▩ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

Serial No.; Up to 109,900

2-7. FORMER TYPE HIDEAWAY UNIT HIDEAWAY PRINTED WIRING BOARD

- See page 19 for Semiconductor Lead Layouts.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
A B C D E F G H I J K L
【HIDEAWAY BOARD】
CN102
COMMANDER
D101
Q102
R102
D104
R103
C106
IC102
Q103
C102
C101
R101
Q101
C104
D103
C107
R116
C109
Q107
D105
Q104
IC101
R111
C111
C108
R104
R114
R115
C113
X101
D102
R117
R116
R108
Q111
R113
R112
Q108
C114
L101
R106
Q106
R105
Q105
Q110
R107
D106
RED
YEL
BLK
1A
ACC
3.15A
BATT
GND
【CONNECTOR BOARD】
(CHASSIS)
CN101
CD CHANGER
E D C B A
H G F E
TO
MODULATOR
BOARD
C105
D C B A
Q113
R120
C112
D108
Q112
R119
S101
RESET
II

Note on Mounting Diagram:

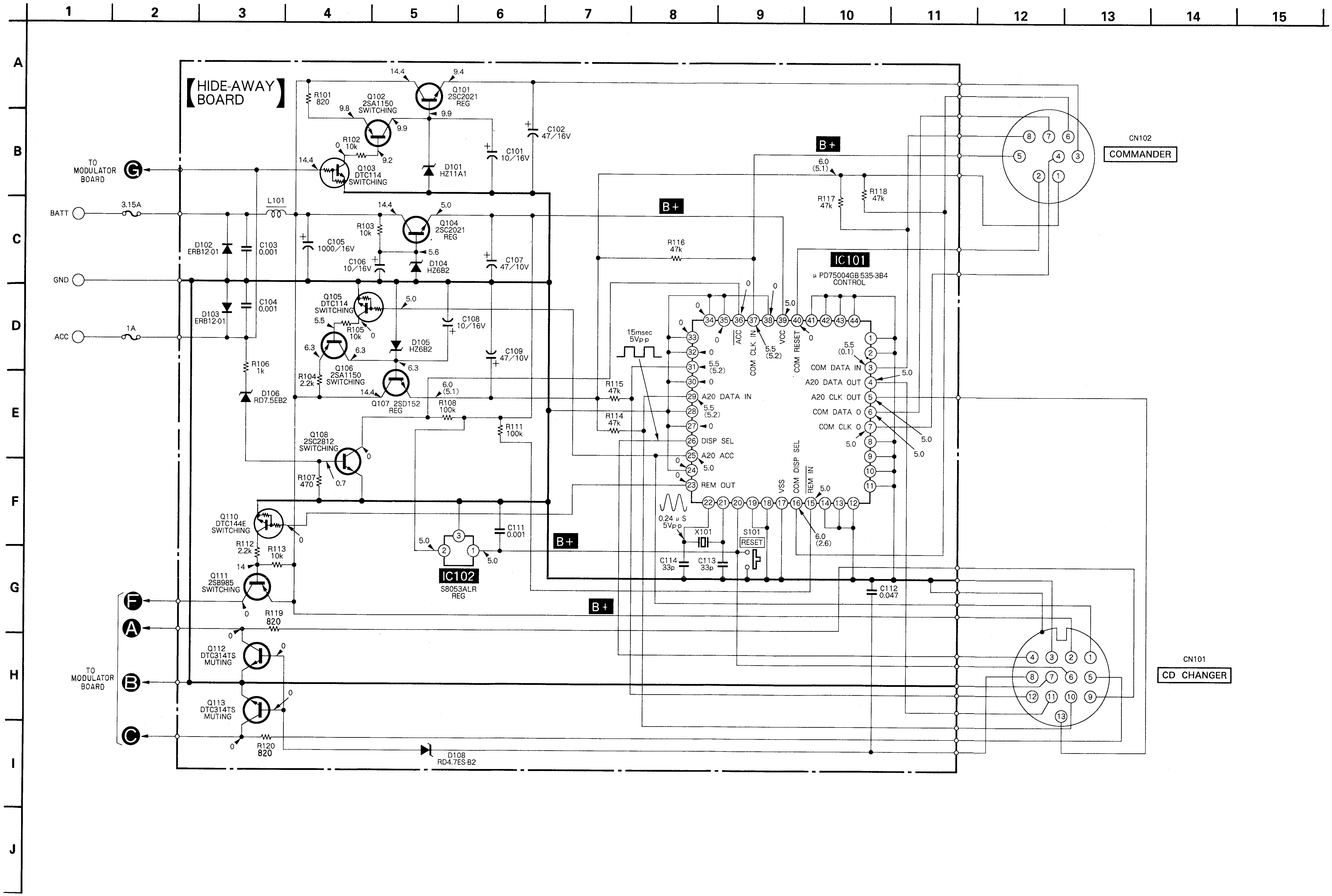
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.
- ☐ : Chip components extracted from the rear side.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	B-6	Q101	B-6
D102	D-17	Q102	B-8
D103	C-17	Q103	B-17
D104	B-10	Q104	C-10
D105	C-6	Q105	E-7
D106	E-11	Q106	D-6
D108	J-15	Q107	C-6
		Q108	D-11
IC101	C-13	Q110	E-10
IC102	C-15	Q111	D-9
		Q112	K-13
		Q113	J-13

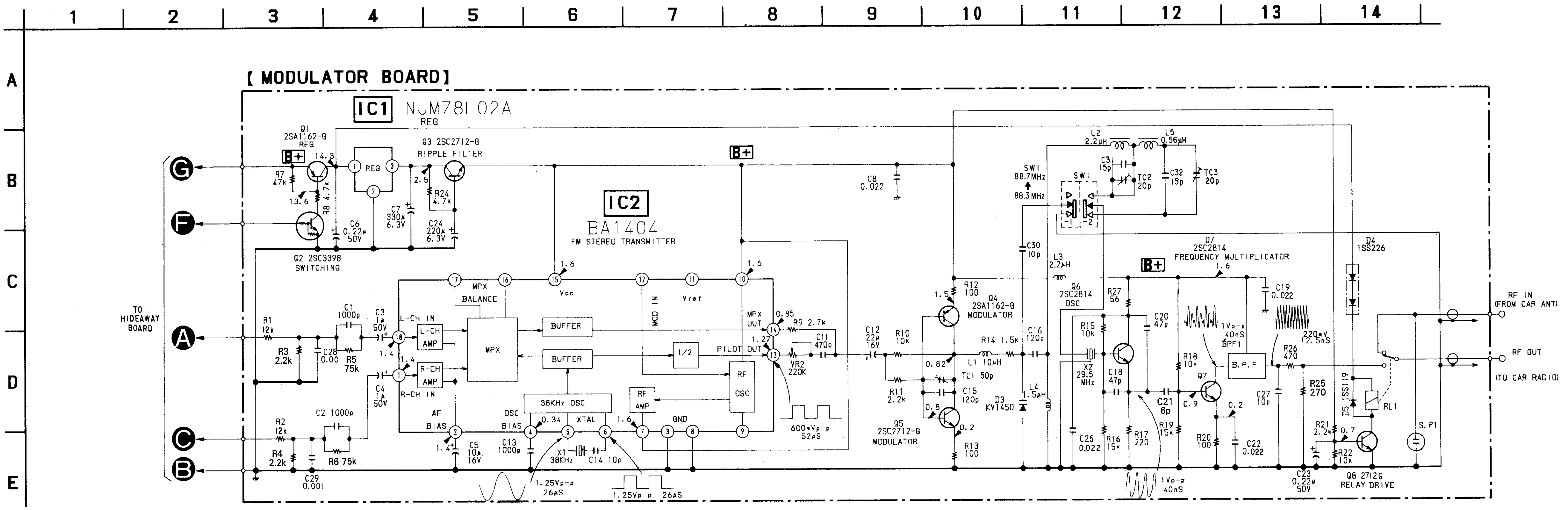
2-8. FORMER TYPE HIDEAWAY UNIT HIDEAWAY BOARD SCHEMATIC DIAGRAM

Serial No.; Up to 109,900


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J
HIDE-AWAY BOARD
TO MODULATOR BOARD
G
BATT
3.15A
L101
GND
ACC
1A
D102 ERB12-01
D103 ERB12-01
C103 0.001
C104 0.001
R106 1k
D106 RD7.5EB2
R101 820
Q102 2SA1150 SWITCHING
R102 10k
Q103 DTC114 SWITCHING
Q101 2SC2021 REG
D101 HZ11A1
C101 10/16V
C102 47/16V
C105 1000/16V
R103 10k
C106 10/16V
Q104 2SC2021 REG
D104 HZ6B2
C107 47/10V
Q105 DTC114 SWITCHING
R105 10k
Q106 2SA1150 SWITCHING
R104 2.2k
D105 HZ6B2
C108 10/16V
C109 47/10V
Q107 2SD152 REG
R108 100k
R111 100k
Q108 2SC2812 SWITCHING
R107 470
Q110 DTC144E SWITCHING
R112 2.2k
R113 10k
Q111 2SB985 SWITCHING
C111 0.001
IC102
S8053ALR REG
F
A
B
C
R119 820
Q112 DTC314TS MUTING
Q113 DTC314TS MUTING
R120 820
D108 RD4.7ES-B2
B+
R116 47k
R115 47k
R114 47k
R117 47k
R118 47k
IC101
μ PD75004GB-535-3B4 CONTROL
15msec 5Vp-p
0.24 μ S 5Vp-p
X101
C114 33p
C113 33p
S101 RESET
C112 0.047
ACC
COM CLK IN
VCC
COM RESET
COM DATA IN
A20 DATA OUT
A20 CLK OUT
COM DATA O
COM CLK O
A20 DATA IN
DISP SEL
A20 ACC
REM OUT
VSS
COM DISP SEL
REM IN
CN102
COMMANDER
CN101
CD CHANGER
14.4 9.4 9.8 9.9 9.2 5.0 5.6 5.5 6.3 6.0 (5.1) 0.7 (5.2) (0.1) (2.6)

2-9. FORMER TYPE HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD SCHEMATIC DIAGRAM

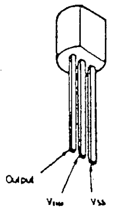
Serial No.; Up to 109,900


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E
[MODULATOR BOARD]
IC1 NJM78L02A REG
IC2 BA1404 FM STEREO TRANSMITTER
Q1 2SA1162-G REG
Q2 2SC3398 SWITCHING
Q3 2SC2712-G RIPPLE FILTER
Q4 2SA1162-G MODULATOR
Q5 2SC2712-G MODULATOR
Q6 2SC2814 OSC
Q7 2SC2814 FREQUENCY MULTIPLICATOR
Q8 2712G RELAY DRIVE
D3 KV1450
D4 1SS226
D5 1SS119
TO HIDEAWAY BOARD
RF IN (FROM CAR ANT)
RF OUT (TO CAR RADIO)
SW1 88.7MHz 88.3MHz
MPX BALANCE
L-CH IN
R-CH IN
L-CH AMP
R-CH AMP
MPX
BUFFER
38KHz OSC
XTAL
RF AMP
RF OSC
MPX OUT
PILOT OUT
MOD IN
Vref
Vcc
GND
AF BIAS
OSC BIAS
B.P.F
RL1
S.P1
X1 38KHz
X2 29.5 MHz
1.25Vp-p 26μS
600mVp-p 52μS
1Vp-p 40nS
220mV 12.5nS
B+

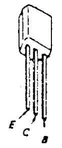
• HIDEAWAY UNIT HIDEAWAY BOARD SEMICONDUCTOR LEAD LAYOUTS AND NOTES

• Semiconductor Lead Layouts

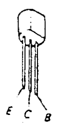
S-8053ALR


Output
VDD
Vss

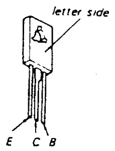
2SA1115P



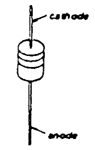
2SB985-T



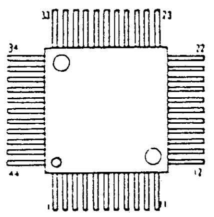
2SD1521


letter side
E
C
B

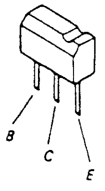
RD4.7ESB2
RD5.6ESB2
RD7.5ESB2
RD9.1ESB2


cathode
anode

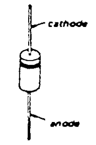
μPD75004GB-535-3B4



2SC2021



10E-2


cathode
anode

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Power voltage is dc 14.4 V and fed with regurated dc power supply from ACC and BATT terminals.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : Without Remote Commander
  ( ) : Connected with Remote Commander
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.

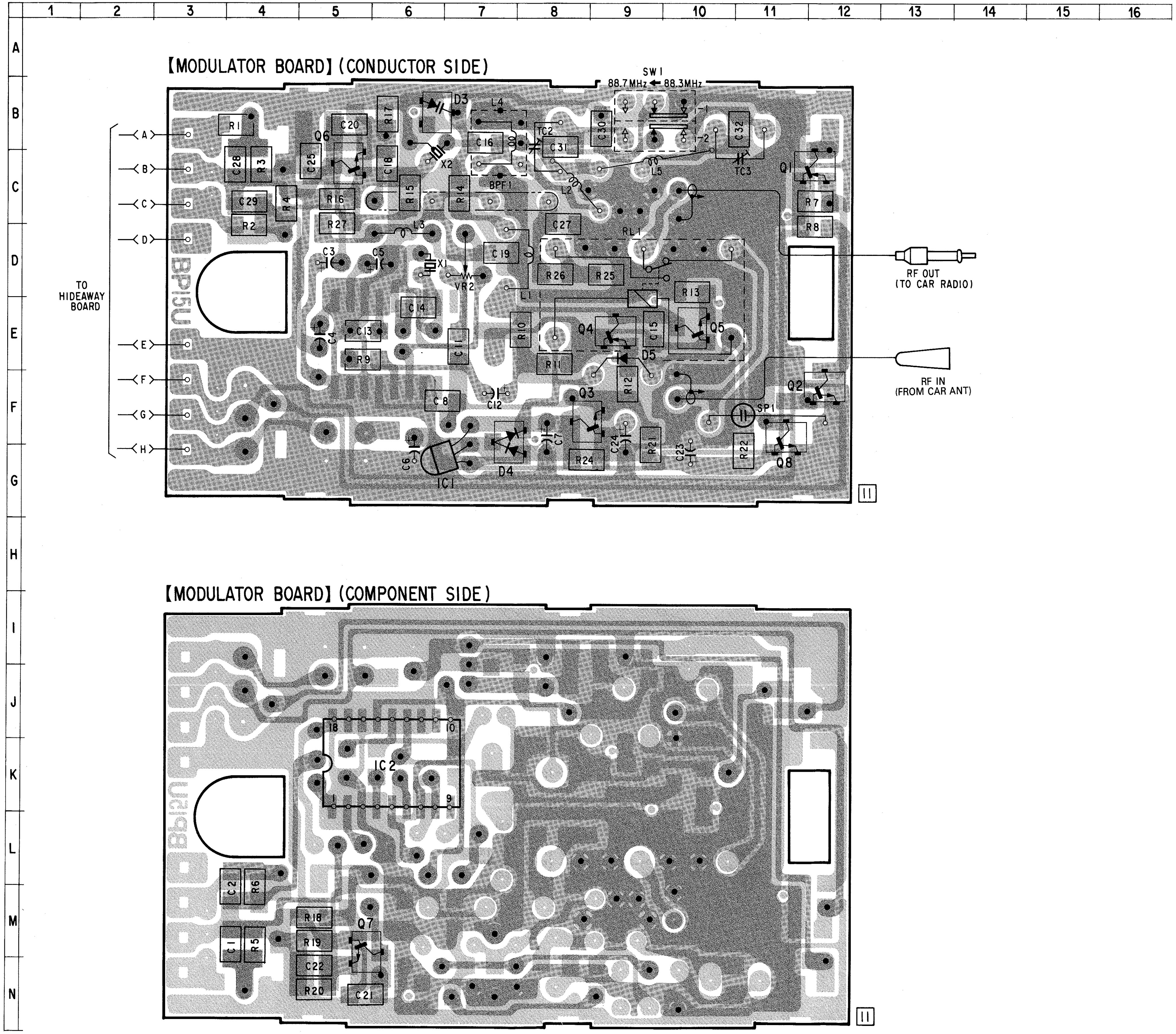
• HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD NOTE ON SCHEMATIC DIAGRAM

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- Power voltage is dc 14.4 V and fed with regurated dc power supply from ACCESSORY terminal and REMOTE IN terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.

• Semiconductor Location

Ref. No.	Location
D3	B-6
D4	F-7
D5	E-9
IC1	F-7
IC2	K-6
Q1	B-11
Q2	F-12
Q3	F-8
Q4	E-9
Q5	E-10
Q6	B-5
Q7	M-5
Q8	F-11

2-10. FORMER TYPE HIDEAWAY UNIT FM STEREO RF MODULATOR PRINTED WIRING BOARD

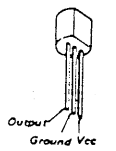

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L
M
N
A
B
C
D
E
F
G
H
TO HIDEAWAY BOARD
SW1
88.7MHz ← 88.3MHz
RF OUT (TO CAR RADIO)
RF IN (FROM CAR ANT)
R1
C28
R3
C25
C20
Q6
R17
D3
L4
C16
TC2
C31
C30
C32
TC3
Q1
R7
R8
C29
R4
R2
R16
R27
R15
C18
R14
X2
BPF1
L2
L5
C27
RL1
L3
C3
C5
X1
VR2
C19
L1
R26
R25
R13
C14
C13
C4
R9
C11
R10
Q4
C15
Q5
D5
R11
R12
C8
C12
Q3
Q2
SP1
C6
IC1
D4
C7
C24
R24
R21
C23
R22
Q8
BP15U
11
18
10
IC2
9
C2
R6
R18
Q7
R19
C1
R5
C22
R20
C21
11

[MODULATOR BOARD] (CONDUCTOR SIDE)

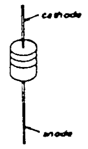
[MODULATOR BOARD] (COMPONENT SIDE)

- HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD SEMICONDUCTOR LEAD LAYOUTS AND NOTES ON PRINTED WIRING BOARD
- **Semiconductor Lead Layouts**

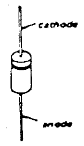
HA178L02


Output
Ground
Vcc

1SS119


cathode
anode

10E-2


cathode
anode

Note:

- ○—— : parts extracted from the component side.
- •—— : parts extracted from the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

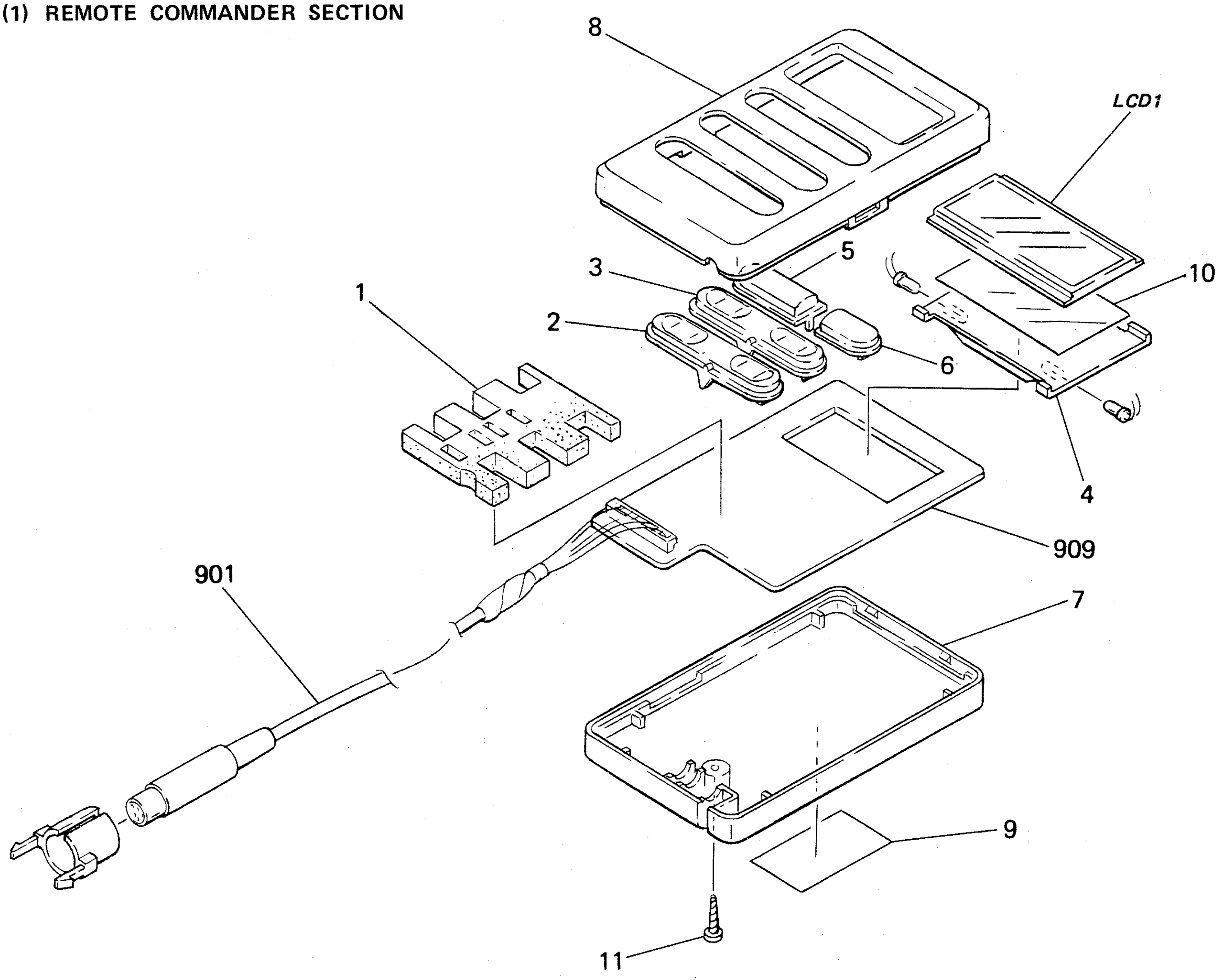
SECTION 3
EXPLODED VIEWS AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts' Color

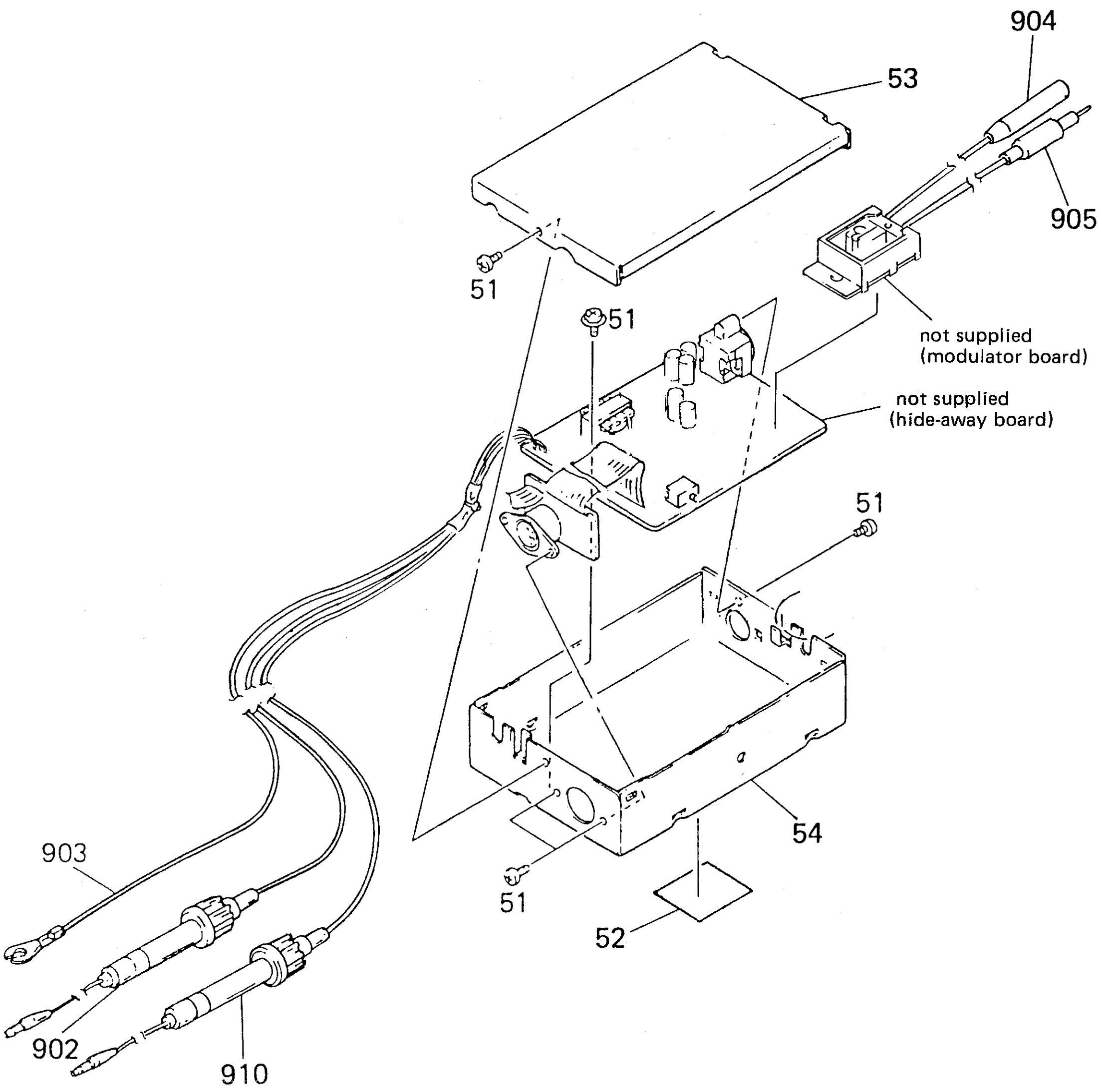
(1) REMOTE COMMANDER SECTION



No.	Part No.	Description	Remarks
1	*2-398-921-01	CUSHION (BUTTON)	
2	2-398-922-01	BUTTON (AMS)	
3	2-398-923-01	BUTTON (DISC)	
4	*2-398-924-01	HOLDER, LAMP	
5	2-398-925-01	BUTTON (PLAY/PAUSE)	
6	2-398-926-01	BUTTON (OFF)	
7	2-398-927-01	CASE (LOWER)	
8	2-398-928-01	CASE (UPPER)	
9	*2-398-931-01	LABEL	
11	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
10	*2-398-919-01	REFLECTOR	
901	1-574-298-11	CORD (WITH CONNECTOR)	
909	*1-628-803-11	PC BOARD, COMMANDER	
LCD1	1-808-605-11	DISPLAY PANEL, LIQUID CRYSTAL	

REVISED

(2) HIDE-AWAY UNIT SECTION


904
53
905
51
51
not supplied
(modulator board)
not supplied
(hide-away board)
51
903
54
51
52
902
910

No.	Part No.	Description	Remarks
51	7-685-750-01	SCREW PTT 3X5	
53	9-996-076-01	CASE (UPPER)	
54	*9-996-077-01	CASE (LOWER)	
902	9-995-009-01	CORD (WITH TERMINAL)	
903	9-995-010-01	CORD (WITH TERMINAL)	
904	*9-996-064-01	TERMINAL CORD (ANT JACK)	
905	*9-996-065-01	TERMINAL CORD (ANT PLUG)	
910	9-995-817-01	CORD (WITH TERMINAL)	

SECTION 4
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: $\mu\mu$F.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

● REMOTE COMMANDER, HIDEAWAY UNIT
HIDEAWAY BOARD

Ref.No.	Part No.	Description
901	1-574-298-11	CORD (WITH CONNECTOR)
902	9-995-009-01	CORD (WITH TERMINAL)
903	9-995-010-01	CORD (WITH TERMINAL)
909	*1-628-803-11	PC BOARD, COMMANDER
910	9-995-817-01	CORD (WITH TERMINAL)
C1	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C2	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V
C3	1-135-093-11	(NEW)......TANTAL CHIP 10MF 20% 10V
C3	1-135-098-11	(FORMER)...TANTAL CHIP 47MF 20% 10V
C4	1-163-038-00	(FORMER)...CERAMIC CHIP 0.1MF 25V
C4	1-163-083-00	(NEW).. ...CERAMIC CHIP 0.47MF 16V
C5	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C6	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C7	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C8	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C9	1-163-141-00	CERAMIC CHIP 0.001MF 10% 50V
C101	1-126-157-11	ELECT 10MF 20% 16V
C102	1-123-332-11	ELECT 47MF 20% 16V
C103	1-163-009-11	CERAMIC (CHIP) 0.001MF 50V
C104	1-163-009-11	CERAMIC (CHIP) 0.001MF 50V
C105	1-124-360-00	ELECT 1000MF 20% 16V
C106	1-126-157-11	ELECT 10MF 20% 16V
C107	1-123-306-00	ELECT 47MF 20% 10V
C108	1-126-157-11	ELECT 10MF 20% 16V
C109	1-123-332-11	ELECT 47MF 20% 10V
C111	1-163-009-11	CERAMIC (CHIP) 0.001MF 50V
C112	1-163-809-11	CERAMIC (CHIP) 0.047MF 50V
C113	1-163-105-00	CERAMIC (CHIP) 33PF 50V
C114	1-163-105-00	CERAMIC (CHIP) 33PF 50V
C116	1-126-157-11	(NEW)......ELECT 10MF 20% 16V
CN101	1-565-066-11	SOCKET 13P
CN102	1-563-486-11	SOCKET, CONNECTOR
D1	8-719-911-19	DIODE 1SS119
D2	8-719-911-19	DIODE 1SS119
D101	8-719-110-13	DIODE RD9.1ESB2
D102	8-719-200-02	DIODE 10E-2
D103	8-719-200-02	DIODE 10E-2
D104	8-719-109-89	DIODE RD5.6ESB2
D105	8-719-100-37	DIODE RD6.2ESB1
D106	8-719-110-03	DIODE RD7.5ESB2
D108	8-719-109-81	DIODE RD4.7ESB2
IC1	8-759-112-04	IC UPD7514G-238
IC2	8-759-200-82	IC TC4069UBF
IC3	8-759-200-80	IC TC4050BF
IC4	8-759-209-97	IC TC4S81F
IC5	8-759-209-97	IC TC4S81F
IC101	8-759-146-31	(FORMER)...IC UPD75004GB-535-3B4
IC101	8-759-148-32	(NEW)...IC UPD75004GB-570-3B4
IC102	8-759-920-14	IC S8053ALR
L101	1-421-359-00	COIL, CHOKE
LCD1	1-808-605-11	DISPLAY PANEL, LIQUID CRYSTAL
LED1	1-807-807-11	DIODE CL-50Y-CD
LED2	1-807-807-11	DIODE CL-50Y-CD
LED3	1-807-807-11	DIODE CL-50Y-CD
LED4	1-807-807-11	DIODE CL-50Y-CD
LED5	1-807-807-11	DIODE CL-50Y-CD
LED6	1-807-807-11	DIODE CL-50Y-CD
PL1	1-518-620-11	LAMP, PILOT
PL2	1-518-620-11	LAMP, PILOT
Q101	8-729-902-11	(FORMER)...TRANSISTOR 2SC2021
Q101	8-729-802-91	(NEW)......TRANSISTOR 2SD879
Q102	8-729-119-76	TRANSISTOR 2SA1115P
Q103	8-729-900-53	TRANSISTOR DTC114EK
Q104	8-729-902-11	TRANSISTOR 2SC2021
Q105	8-729-900-53	TRANSISTOR DTC114EK
Q106	8-729-119-76	TRANSISTOR 2SA1115P
Q107	8-729-204-10	TRANSISTOR 2SD1417
Q108	8-729-881-21	(FORMER)...TRANSISTOR 2SC2812
Q108	8-729-901-01	(NEW)......TRANSISTOR DTC144EK
Q110	8-729-900-53	TRANSISTOR DTC114EK
Q111	8-729-804-25	TRANSISTOR 2SB985-T
Q112	8-729-905-55	TRANSISTOR DTC314TKH04
Q113	8-729-905-55	TRANSISTOR DTC314TKH04
R1	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R2	1-216-084-00	METAL GLAZE 30K 5% 1/10W
R3	1-216-081-00	(NEW)......METAL GLAZE 22K 5% 1/10W
R3	1-216-097-00	(FORMER)...METAL GLAZE 100K 5% 1/10W
R4	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R5	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R6	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R7	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R8	1-216-027-00	METAL GLAZE 120 5% 1/10W
R9	1-216-027-00	METAL GLAZE 120 5% 1/10W
R10	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R11	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R12	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R13	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R14	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R15	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R16	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R17	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R18	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R19	1-216-084-00	METAL GLAZE 30K 5% 1/10W
R101	1-249-416-11	CARBON 820 5% 1/4W
R102	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R103	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R104	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R105	1-216-073-00	METAL GLAZE 10K 5% 1/10W

FORMER : Serial No. ; up to 109,900
NEW : Serial No. ; 109,901 and Later

REVISED

Ref.No.	Part No.	Description
R106	1-216-019-00	(FORMER)...METAL GLAZE 1K 5% 1/10W
R106	1-216-057-00	(NEW)......METAL GLAZE 2.2K 5% 1/10W
R107	1-216-081-00	(FORMER)...METAL GLAZE 470 5% 1/10W
R107	1-216-081-00	(NEW)......METAL GLAZE 22K 5% 1/10W
R108	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R111	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R112	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R113	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R114	1-216-086-00	METAL GLAZE 47K 5% 1/10W
R115	1-216-086-00	METAL GLAZE 47K 5% 1/10W
R116	1-216-086-00	METAL GLAZE 47K 5% 1/10W
R117	1-216-086-00	METAL GLAZE 47K 5% 1/10W
R118	1-216-086-00	METAL GLAZE 47K 5% 1/10W
R119	1-216-196-00	METAL GLAZE 820 5% 1/10W
R120	1-216-196-00	METAL GLAZE 820 5% 1/10W
R121	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R122	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R123	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R124	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R125	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R126	1-216-033-00	(NEW)......METAL GLAZE 220 5% 1/10W
R127	1-216-019-00	(NEW)......METAL GLAZE 1K 5% 1/10W
S1	1-571-749-11	SWITCH, KEY BOARD (▶II)
S2	1-571-749-11	SWITCH, KEY BOARD (OFF)
S3	1-571-749-11	SWITCH, KEY BOARD (DISC(-))
S4	1-571-749-11	SWITCH, KEY BOARD (DISC(+))
S5	1-571-749-11	SWITCH, KEY BOARD (AMS I◀◀)
S6	1-571-749-11	SWITCH, KEY BOARD (AMS ▶▶I)
S101	1-554-088-00	SWITCH, KEY BOARD (RESET)
X1	1-527-990-00	VIBRATOR, CRYSTAL (32.768kHz)
X101	1-567-170-00	VIBRATOR, CERAMIC (4.194MHz)

FORMER : Serial No. ; up to 109,900
NEW : Serial No. ; 109,901 and Later

● HIDEAWAY UNIT FM STEREO RF MODULATOR BOARD

Ref.No.	Paet No.	Description		
904	*9-996-064-01	TERMINAL CORD (ANT JACK)		
905	*9-996-065-01	TERMINAL CORD (ANT PLUG)		
BPF1	9-995-026-01	B.P.F		
C1	1-163-141-00	CERAMIC(CHIP)	1000PF	
C2	1-163-141-00	CERAMIC(CHIP)	1000PF	
C3	1-123-611-11	ELECT	1MF	50V
C4	1-123-611-11	ELECT	1MF	50V
C5	1-123-617-11	ELECT	10MF	16V
C6	1-123-608-11	ELECT	0.22MF	50V
C7	1-124-442-11	ELECT	330MF	6.3V
C8	1-163-037-11	CERAMIC(CHIP)	0.022MF	
C11	1-163-622-11	CERAMIC(CHIP)	470PF	
C12	1-123-622-11	ELECT	22MF	16V
C13	1-163-009-11	CERAMIC(CHIP)	1000PF	
C14	1-163-227-11	CERAMIC(CHIP)	10PF	
C15	1-163-119-11	CERAMIC(CHIP)	120PF	
C16	1-163-253-11	CERAMIC(CHIP)	120PF	
C18	1-163-243-11	CERAMIC(CHIP)	47PF	
C19	1-163-037-11	CERAMIC(CHIP)	0.022MF	
C20	1-163-243-11	CERAMIC(CHIP)	47PF	
C21	1-163-223-11	CERAMIC(CHIP)	6PF	
C22	1-163-037-11	CERAMIC(CHIP)	0.022MF	
C23	1-123-608-11	ELECT	0.22MF	50V
C24	1-124-674-11	ELECT	220MF	6.3V
C25	1-163-037-11	CERAMIC(CHIP)	0.022MF	
C26	1-163-021-11	(FORMER)...CERAMIC(CHIP) 0.01MF		
C27	1-163-093-11	CERAMIC(CHIP)	10PF	
C28	1-163-141-11	CERAMIC(CHIP)	1000PF	
C29	1-163-141-11	CERAMIC(CHIP)	1000PF	
C30	1-163-227-11	CERAMIC (CHIP)	10PF	
C31	1-163-231-11	CERAMIC (CHIP)	15PF	
C32	1-163-231-11	CERAMIC (CHIP)	15PF	
C33	1-131-343-00	(NEW)...CAP, TANTALUM ELECT 0.22UF 10% 35V		
CN1	9-995-028-01	JACK, PIN (INPUT)		
D3	9-995-017-01	DIODE KV1450 (CHIP)		
D4	8-719-800-76	DIODE MA157 (CHIP)		
D5	8-719-911-19	DIODE 1SS119		
D6	8-719-913-44	(NEW)...DIODE ERA82-004		
D7	8-719-913-44	(NEW)...DIODE ERA82-004		
IC1	8-759-708-02	IC NJM78L02A		
IC2	9-996-234-01	IC BA1404		
L1	1-410-328-11	INDUCTOR	10MH	
L2	9-996-061-01	INDUCTOR	2.2MH	
L3	1-410-320-11	INDUCTOR	2.2MH	
L4	9-996-062-01	TRANSFORMER	1.5MH	
L5	1-410-359-11	INDUCTOR	0.56MH	

Ref.No.	Part No.	Description
Q1	8-729-216-22	TRANSISTOR 2SA1162
Q2	8-729-805-41	TRANSISTOR 2SC3398
Q3	8-729-271-22	TRANSISTOR 2SC2712-G
Q4	8-729-216-22	TRANSISTOR 2SA1162
Q5	8-729-271-22	TRANSISTOR 2SC2712
Q6	8-729-804-71	TRANSISTOR 2SC2814
Q7	8-729-804-71	TRANSISTOR 2SC2814
Q8	8-729-271-22	TRANSISTOR 2SC2712-G
R1	1-216-073-00	(NEW)......METAL GLAZE 10K
R1	1-216-075-00	(FORMER)...METAL GLAZE 12K
R2	1-216-073-00	(NEW)......METAL GLAZE 10K
R2	1-216-075-00	(FORMER)...METAL GLAZE 12K
R3	1-216-057-00	METAL GLAZE 2.2K
R4	1-216-057-00	METAL GLAZE 2.2K
R5	1-216-094-11	METAL GLAZE 75K
R6	1-216-094-11	METAL GLAZE 75K
R7	1-216-089-11	METAL GLAZE 47K
R8	1-216-065-11	METAL GLAZE 4.7K
R9	1-216-059-11	METAL GLAZE 2.7K
R10	1-216-073-11	METAL GLAZE 10K
R11	1-216-057-11	METAL GLAZE 2.2K
R12	1-216-025-11	METAL GLAZE 100
R13	1-216-025-11	METAL GLAZE 100
R14	1-216-053-11	METAL GLAZE 1.5K
R15	1-216-073-11	METAL GLAZE 10K
R16	1-216-077-11	METAL GLAZE 15K
R17	1-216-033-11	METAL GLAZE 220
R18	1-216-073-11	METAL GLAZE 10K
R19	1-216-077-11	METAL GLAZE 15K
R20	1-216-025-11	METAL GLAZE 100
R21	1-216-057-11	METAL GLAZE 2.2K
R22	1-216-073-11	METAL GLAZE 10K
R24	1-216-061-11	(NEW)......METAL GLAZE 3.3K
R24	1-216-065-11	(FORMER)...METAL GLAZE 4.7K
R25	1-216-035-11	METAL GLAZE 270
R26	1-216-041-11	METAL GLAZE 470
R27	1-216-019-11	METAL GLAZE 56
RL1	9-995-016-01	RELAY
SP1	1-519-504-11	GAP, DISCHARG
SW1	1-570-114-11	SWITCH, SLIDE (88.3MHz/88.7MHz)
TC1	9-996-060-01	CAP, TRIMMER 50PF
TC2	9-995-015-01	CAP, TRIMMER 20PF
TC3	9-995-015-01	CAP, TRIMMER 20PF
VR2	1-238-170-11	RES,ADJ,METAL GLEZE 220K
X1	1-567-093-00	VIBRATOR CRYSTAL (38KHz)
X2	9-995-027-01	VIBRATOR LITHIUH (29.5MHz)

ACCESSORY

3-750-594-11	MANUAL, INSTRUCTION
3-750-595-11	MANUAL, INSTRUCTION

FORMER : Serial No. ; up to 109,900
NEW : Serial No. ; 109,901 and Later

9-953-875-12

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Mobile Electronics Group

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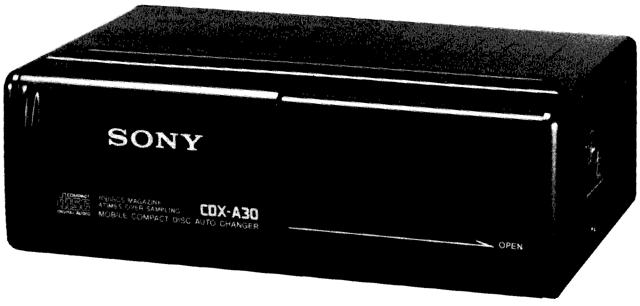
CDX-A30

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model



SPECIFICATIONS

System
  Compact disc digital audio system
Laser diode properties
  Material: GaAlAs
  Wavelength: 780 nm
  Emission duration: Continuous
  Laser output power: Less than 44.6 μW*
  * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.
D-A conversion
  16-bit linear
Frequency response
  5 – 20,000 Hz ±1 dB
Signal-to-noise ratio
  90 dB
Wow and flutter
  Below measurable limit
Outputs
  Line output (for changer connector only)

General
Current drain
  800 mA (CD playback)
  800 mA (during disc loading or eject)
Operating temperature
  –10°C – 55°C (14°F – 131°F)
Mounting dimensions
  Approx. 301 × 98 × 200 mm (w/h/d)
  ($11\frac{7}{8} \times 3\frac{7}{8} \times 7\frac{7}{8}$ in.)
  not incl. projecting parts and controls
Weight
  Approx. 3 kg (6 lb 10 oz)
Supplied accessories
  Disc magazine (1)
  Mounting hardware (1 set)
  Extension cord (1)
Optional accessory
  Compact disc single adaptor CSA-8

Design and specifications subject to change without notice.

FEATURES

- **Mobile CD auto changer** automatically changes the discs in the disc magazine and enables you to play the desired selections of the 10 discs.
- **Compact and space-saving** for either vertical or horizontal installation in the car.
- The connected equipment enables you to operate the changer in the car.
- High quality sound obtained with the 4 fs digital filter.

MICROFILM

COMPACT DISC PLAYER

SONY®

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SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

> **CAUTION**
>
> Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output: max. 44.6 μW*

     * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optiocal Pick-up Block (including APC borad).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

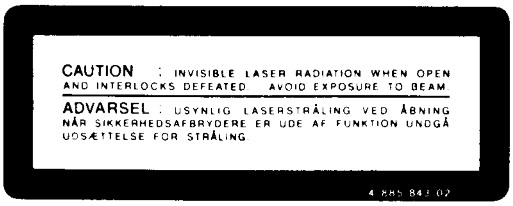
1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*

     * Målt i 1,6 mm afstand fra overfladen af objektivlinsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.
2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.

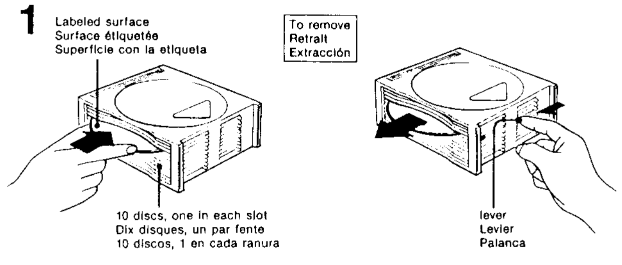
4 885 843 02

VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

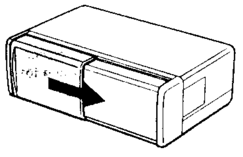
SECTION 2
GENERAL

PREPARATIONS
PREPARATIFS
PREPARATIVOS

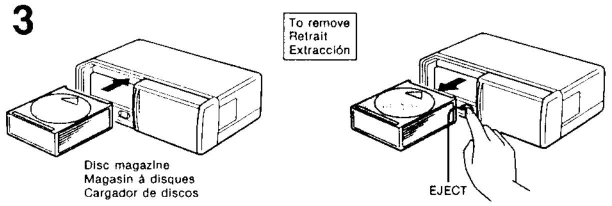
1


Labeled surface
Surface étiquetée
Superficie con la etiqueta
To remove
Retrait
Extracción
10 discs, one in each slot
Dix disques, un par fente
10 discos, 1 en cada ranura
lever
Levier
Palanca

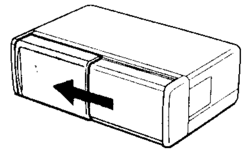
2



3


To remove
Retrait
Extracción
Disc magazine
Magasin à disques
Cargador de discos
EJECT

4

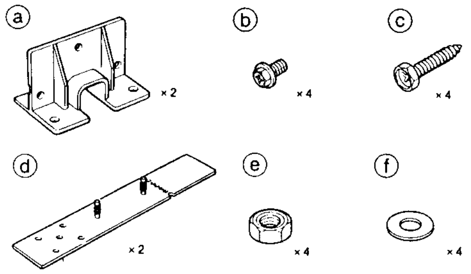


Use the unit with the door closed
Otherwise, foreign matter may enter the unit, and contaminate the lens in the player.
Note
To play a 3-inch CD, use the Sony CSA-8 adaptor (optional). Playing a 3-inch CD without the adaptor may damage the unit.

Utiliser cet appareil avec la porte fermée
Si cela n'est pas fait, des matières étrangères peuvent entrer dans l'appareil et contaminer l'objectif du lecteur.
Remarque
Pour la lecture de disque compact de 3 pouces, utiliser l'adaptateur Sony CSA-8 (en option). Sans lui, l'appareil risque d'être endommagé.

Emplee la unidad con la puerta cerrada
De lo contrario, podrían introducirse materias extrañas y contaminar el objetivo del reproductor.
Nota
Para reproducir un disc compacto de 8 cm., utilice el adaptador CSA-8 Sony (opcional). La reproducción de un disco compacto de 8 cm. sin el adaptador puede dañar la unidad.

SUPPLIED MOUNTING HARDWARE
MATERIEL DE MONTAGE FOURNI
FERRETERÍA DE MONTAJE SUMINISTRADA



INSTALLATION
INSTALLATION
INSTALACIÓN

PRECAUTIONS

- Choose the mounting location carefully, observing the following:
  - —The fuel tank should not be damaged by the tapping screws.
  - —There should be no wire harnesses nor pipelines under the place where you are going to install the unit.
  - —The spare tire, tools or other equipment in or under the trunk should not be interfered with nor damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.

PRECAUTIONS

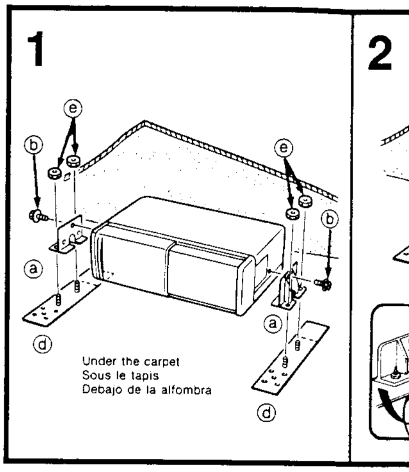
- Choisir soigneusement l'endroit de montage en observant ce qui suit.
  - —Le réservoir d'essence ne doit pas être endommagé par les vis taraudeuses.
  - —Il ne doit pas y avoir de faisceau de fils ou de tuyaux sous l'endroit où l'on désire installer l'appareil.
  - —La roue de secours, les outils ou autre équipement dans ou sous le coffre ne doivent pas être gênés ni endommagés par les vis ou l'appareil lui-même.
- S'assurer d'utiliser uniquement le matériel de montage fourni pour une installation correcte et sûre.

PRECAUCIONES

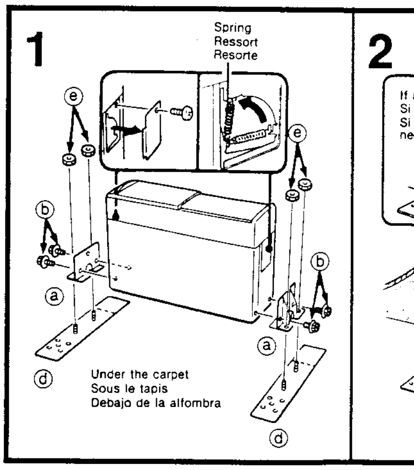
- Elija cuidadosamente el lugar de montaje, teniendo en cuenta lo siguiente:
  - —El depósito de combustible no deberá dañarse con los tornillos roscachapa.
  - —No deberá haber mazos de conductores ni tubos debajo del lugar donde vaya a instalar la unidad.
  - —La rueda de repuesto, las herramientas, u otros equipos situados dentro o debajo del portaequipajes no deberán verse interferidos ni dañados por los tornillos ni por la propia unidad.
- Para realizar una instalación segura, emplee solamente la ferretería de montaje suministrada.

HOW TO INSTALL THE UNIT/INSTALLATION DE L'

To install the unit horizontally / Installat


1
2
ⓔ
ⓑ
ⓔ
ⓑ
ⓐ
ⓐ
ⓓ
Under the carpet
Sous le tapis
Debajo de la alfombra
ⓓ

To install the unit vertically / Installation


1
Spring
Ressort
Resorte
2
ⓔ
ⓔ
ⓑ
ⓑ
ⓐ
ⓐ
ⓓ
Under the carpet
Sous le tapis
Debajo de la alfombra
ⓓ
If
Si
Si
ne

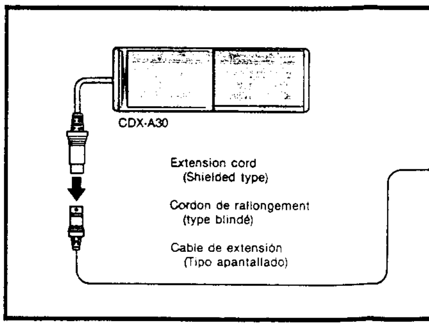
Be sure to reposition the spring as shown in the
Ne manquer pas de remettre le ressort comme ill
Asegúrese de reponer el resorte como muestra la

CONNECTIONS
CONNEXIONS
CONEXIONES

Caution
Before making connections, disconnect the ground wire terminal of the car battery to avoid short circuits.

Attention
Avant d'effectuer les connexions, déconnecter le fil de masse de la batterie de voiture pour éviter un court-circuit.

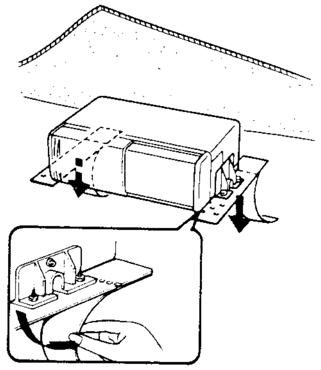
Precaución
Antes de realizar las conexiones, desconecte el terminal del conductor de puesta a carrocería de la batería del automóvil para evitar cortocircuitos.


CDX-A30
Extension cord
(Shielded type)
Cordon de rallongement
(type blindé)
Cable de extensión
(Tipo apantallado)

I DE L'APPAREIL/INSTALACIÓN DE LA UNIDAD

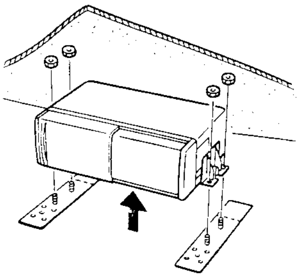
stallation de l'appareil à l'horizontale / Instalación horizontal de la unidad

2

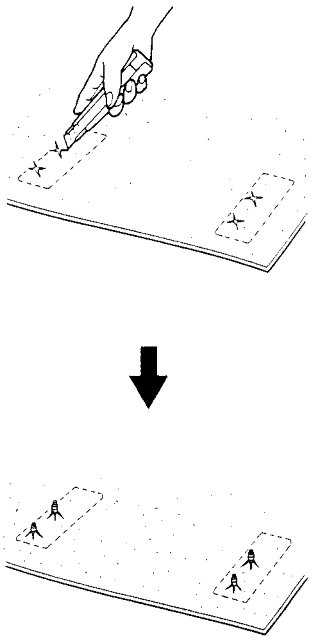


3

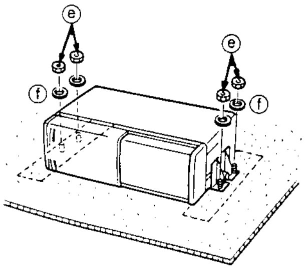
Detach the unit only.
Retirer l'appareil uniquement.
Extraiga solamente la unidad.



4

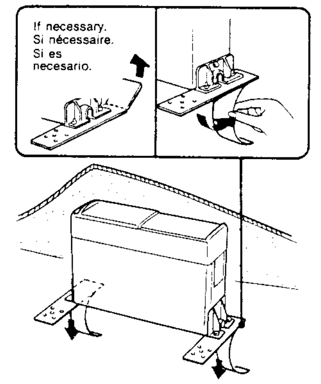


5



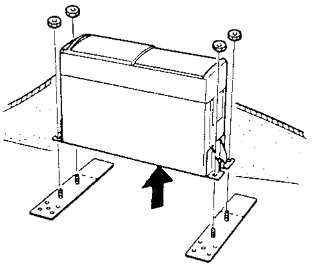
lation de l'appareil à la verticale / Instalación vertical de la unidad

2

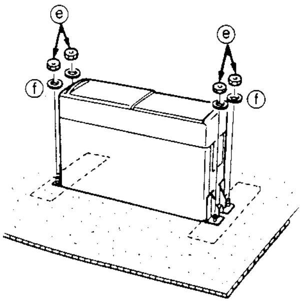

If necessary.
Si nécessaire.
Si es necesario.

3

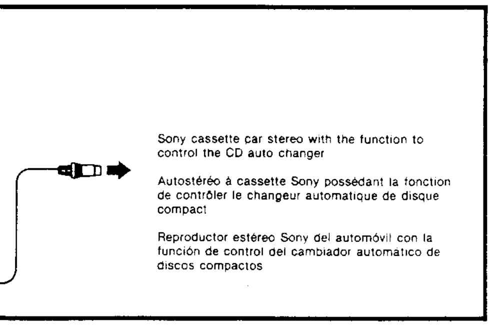
Detach the unit only.
Retirer l'appareil uniquement.
Extraiga solamente la unidad.



5



in the illustration below.
mme illustré ci-dessous.
estra la siguiente ilustración.


Sony cassette car stereo with the function to control the CD auto changer
Autostéréo à cassette Sony possédant la fonction de contrôler le changeur automatique de disque compact
Reproductor estéreo Sony del automóvil con la función de control del cambiador automático de discos compactos

Note
Be sure to use the **supplied** extension cord. Using a cord other than supplied one may cause noise.

For details, refer to the installation/connection manual of each product.

Remarque
Sassurer d'utiliser le cordon de rallongement **fourni**. D'autre cordons risqueraient de causer du bruit.

Pour plus de détails, se reporter au mode d'emploi pour l'installation/connexion de chaque produit.

Nata
Asegúrese de utilizar el cable de extensión **suministrado**. Si usa otro cable que no sea el suministrado, puede producirse ruido.

Con respecto a los detalles, consulte el manual de instalación/conexión de cada producto.

SECTION 3
MECHANICAL ADJUSTMENTS

[LARGE ELEVATOR GEAR POSITION (LOCATION 10.5) ADJUSTMENT]

1. Move the middle elevator gear in the arrowed direction and place the top plate at the position where there are no clearances between the bottom face of the top plate and the top edges of the three claws.

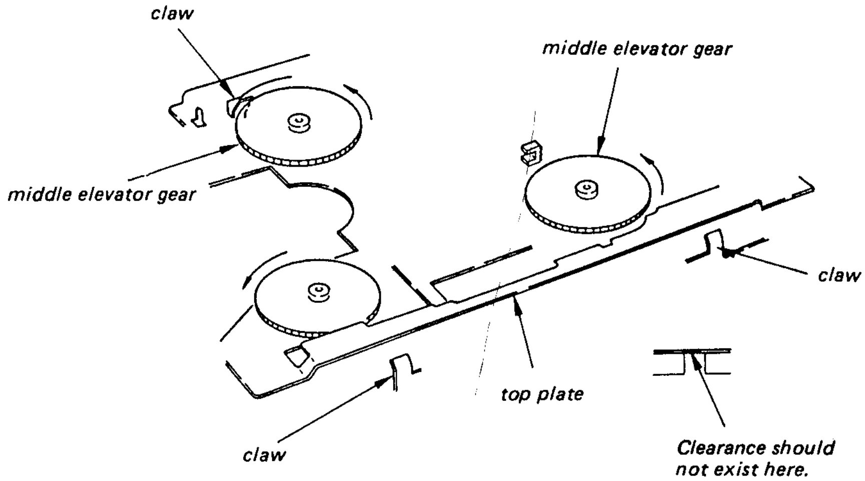
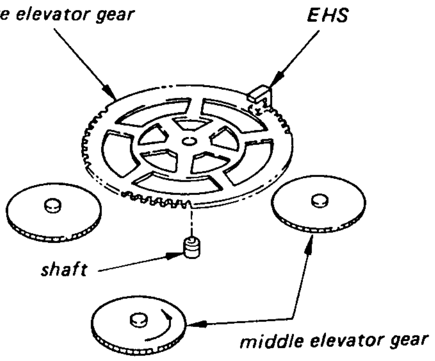
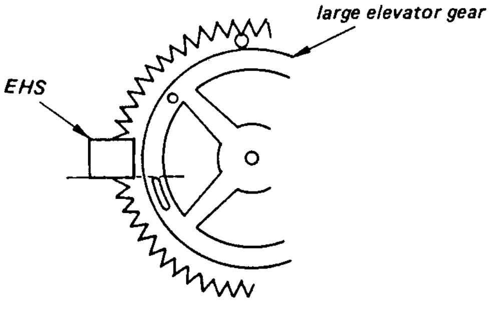

claw
middle elevator gear
middle elevator gear
claw
top plate
claw
Clearance should not exist here.

Fig. 1

2. Put the large elevator gear on the shaft of the top plate taking care not to move the middle elevator gears. The large elevator gear should be fastened by the top plate and EHS protrusion and should position in the relationship with the EHS as shown in Fig. 1.
3. After the placing, fix the large elevator gear with a retaining ring.


large elevator gear
EHS
shaft
middle elevator gear


large elevator gear
EHS

Edge of EHS protrusion and edge of protrusion on the large elevator gear should be aligned as shown.

Fig. 2

[HOMING ADJUSTMENT]

Note: 1. The mechanism section should be completely assembled.

2. Control the mechanism with the main unit XR-7300.

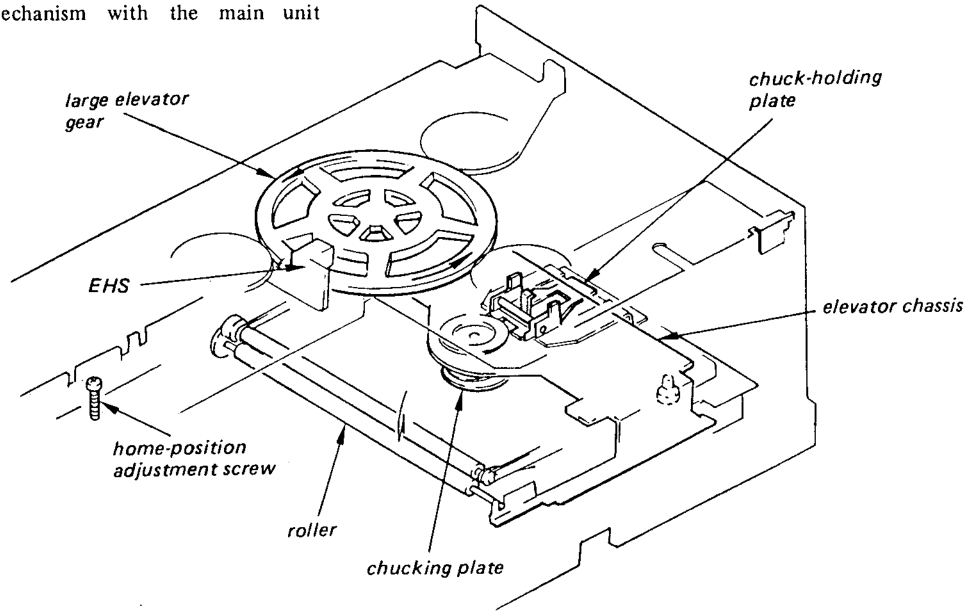

large elevator gear
chuck-holding plate
EHS
elevator chassis
home-position adjustment screw
roller
chucking plate

Fig. 3

1. Put the disk magazine containing several disks in the changer.
2. Initialize the changer.
3. Pull off the first disk.
4. Wait until the elevator lowers down to the home position.
5. Move the large elevator gear so that the clearance between the inner edge face of the chucking plate and edge of the top face of the stainless chuck-holding plate becomes in 1.5 mm (1/16 inches) as shown in Fig. 4.
6. Make a dot marking on the large elevator gear as shown in Fig. 5.
7. Re-put the first disk in the disk magazine.
8. Pull off the first disk again. The dot marking made in the step 6 above should position as shown in Fig. 5.
9. Fine adjust the position of the large elevator gear with the home-position adjustment screw shown in Fig. 3.

Adjustment Screw Position	Large Elevator Gear Position Displacement
One (1) turn in clockwise	15 (fifteen) degrees clockwise
One (1) turn in counterclockwise	15 (fifteen) degrees counterclockwise

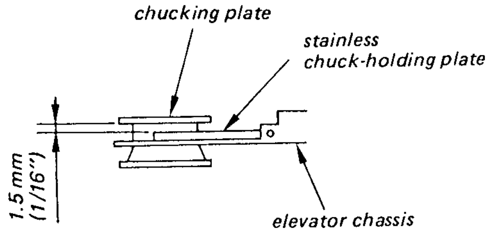
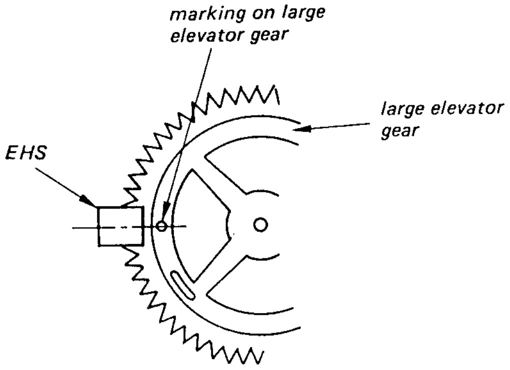

chucking plate
stainless chuck-holding plate
1.5 mm (1/16")
elevator chassis

Fig. 4


marking on large elevator gear
large elevator gear
EHS

Note:
Make a marking near and on the center line of the EHS sensor.

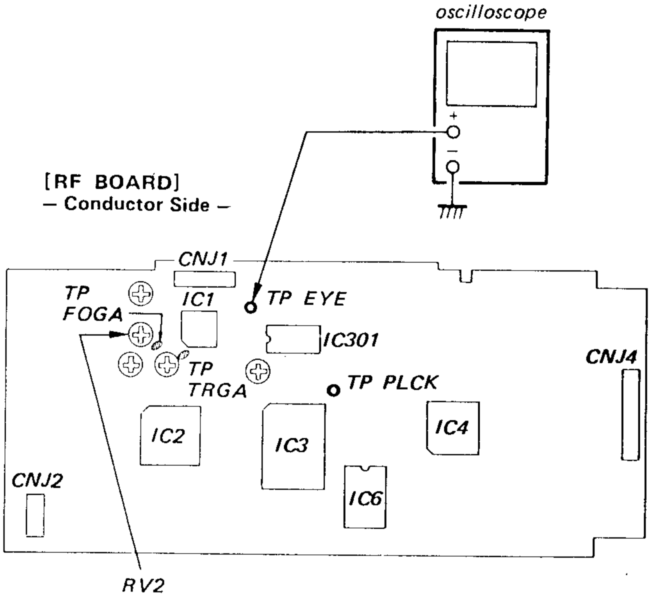
Fig. 5

SECTION 4
ELECTRICAL ADJUSTMENTS

1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.
3. Unsolder the small shield plate from the RF board.
4. Power supply voltage: DC 14.4 V (more than 2A).

1. Focus Offset Adjustment

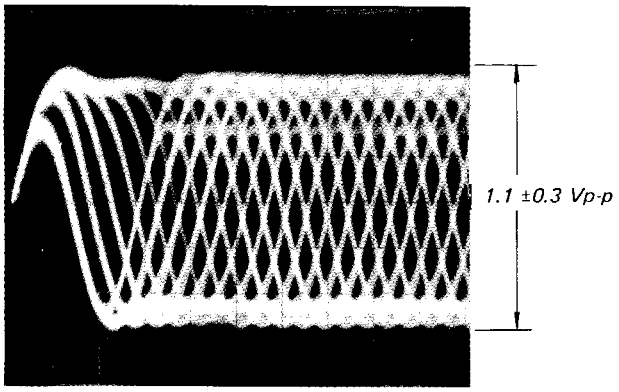
Procedure:


oscilloscope
+
−
[RF BOARD]
– Conductor Side –
CNJ1
TP
FOGA
IC1
TP EYE
IC301
TP
TRGA
TP PLCK
CNJ4
IC2
IC3
IC4
IC6
CNJ2
RV2

1. Connect the oscilloscope to RF board test point EYE.
2. Put the set into play mode by loading the disc.
3. Adjust main board RV2 so that the oscilloscope waveform eye pattern is good.

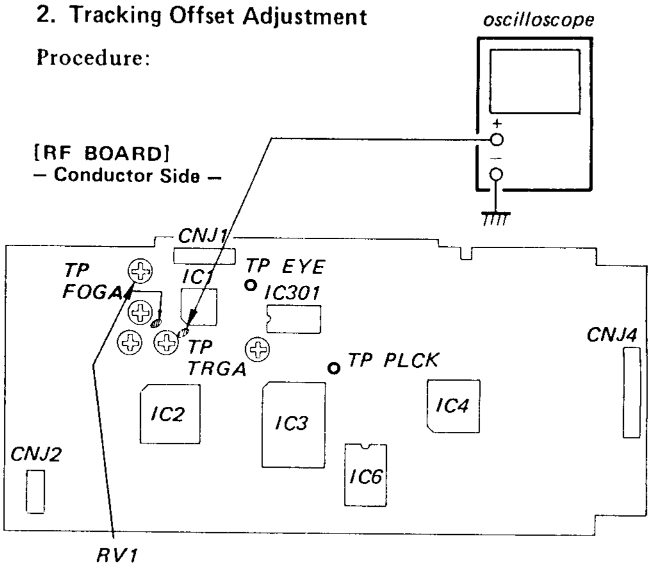
   (A good eye pattern means that the diamond shape (◇) in the center of the oscilloscope can be clearly distinguished.)

Volt/Div: 200 mV
Time/Div: 0.5 µSec



2. Tracking Offset Adjustment

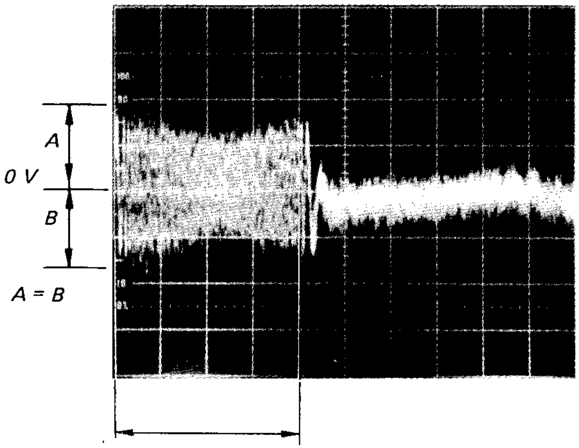
Procedure:


oscilloscope
+
−
[RF BOARD]
– Conductor Side –
CNJ1
TP
FOGA
IC1
TP EYE
IC301
TP
TRGA
TP PLCK
CNJ4
IC2
IC3
IC4
IC6
CNJ2
RV1

1. Connect the oscilloscope to RF board test point TRGA, pin ① of IC1.
2. Put the set into play mode by loading the disc.
3. Press the |◀◀ or ▶▶| (or ◀◀, ▶▶) button, then check the traverse waveform*.
4. Adjust RV1 (main board) so that oscilloscope reading is symmetrical in relation to 0 V.

*Traverse waveform: This is the tracking error waveform appears when crossing the track.

Volt/Div: 0.5 V
Time Div: 2 mSec
Center 0 V



traverse wafeform
(100 track jump waveform)

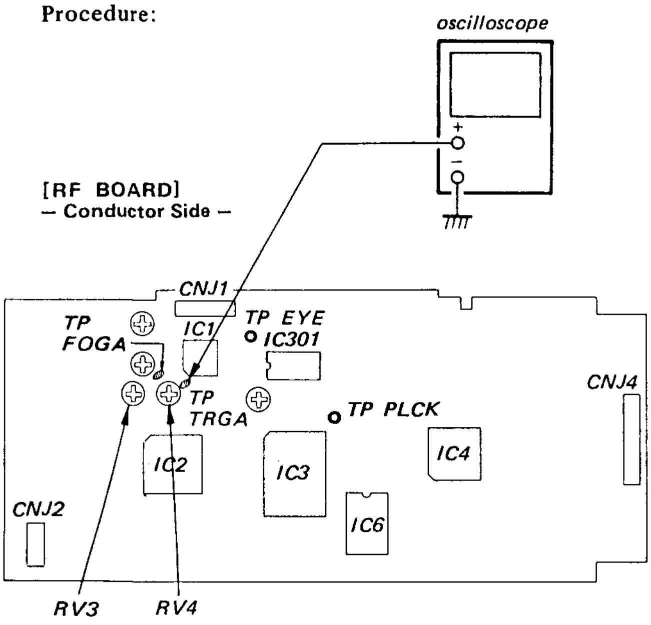
3. Tracking Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV4

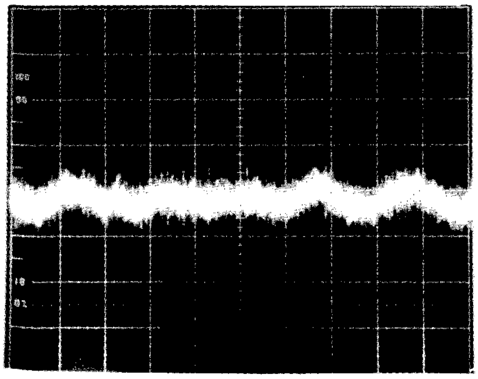
This adjustment should be performed after focus offset and tracking offset adjustments are completed.

Procedure:


oscilloscope
+
–
[RF BOARD]
– Conductor Side –
CNJ1
TP FOGA
IC1
TP EYE
IC301
TP TRGA
TP PLCK
CNJ4
IC2
IC3
IC4
IC6
CNJ2
RV3
RV4

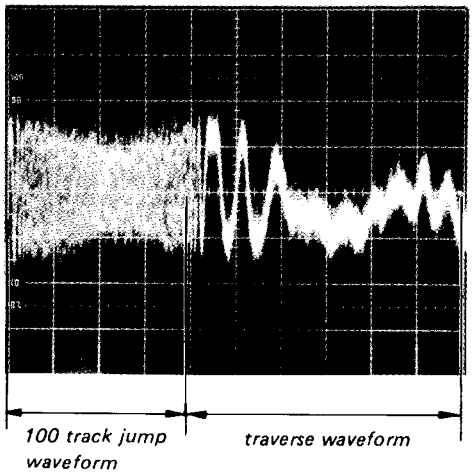
1. Connect the oscilloscope to RF board test point $\boxed{\text{TRGA}}$.
2. Put the set into play mode by loading the disc.
3. Turn RF board RV4 from clockwise stop, then check the oscilloscope waveform.
   Fix RV4 at the position where the waveform disappears.

Volt/Div: 0.5 V
Time/Div: 2 mSec

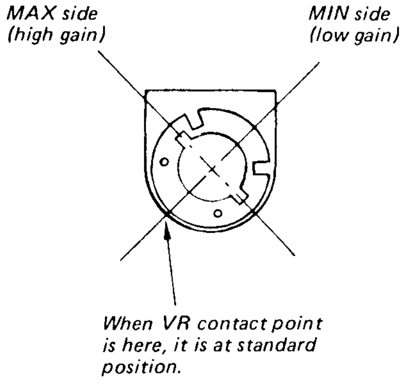


waveform when the wave appears

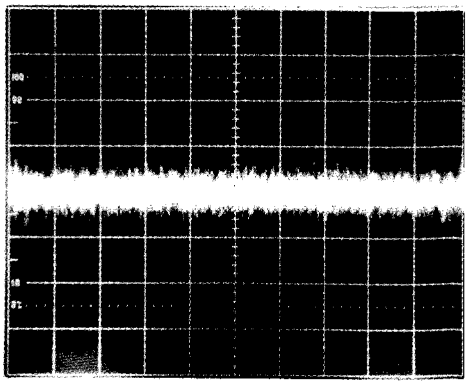
- **When gain is lowered . . .**
  When selecting by pressing |◀◀ or ▶▶| button, brake application is poor because of low tracking gain. Therefore, the traverse waveform appears after the 100 track jump waveform, then the selection will be located slowly.



- **When gain is highered . . .**
  Operation noise is heard due to a scratch or dust, then operation will be instability.


MAX side (high gain)
MIN side (low gain)
When VR contact point is here, it is at standard position.

RV3 standard position



waveform when the wave disappeared

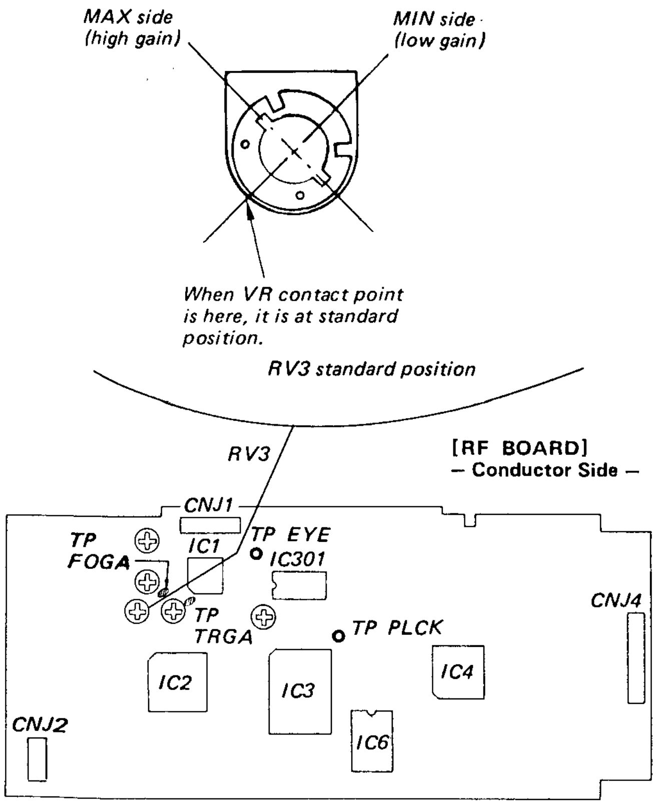
4. Focus Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV3

Procedure:

1. Set RV3 (RF board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV3 slightly clockwise.

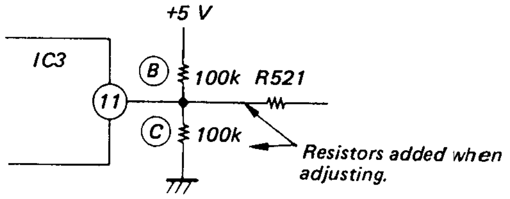

MAX side (high gain)
MIN side (low gain)
When VR contact point is here, it is at standard position.
RV3 standard position
RV3
[RF BOARD] – Conductor Side –
CNJ1
TP FOGA
IC1
TP EYE
IC301
CNJ4
TP TRGA
TP PLCK
IC2
IC3
IC4
IC6
CNJ2

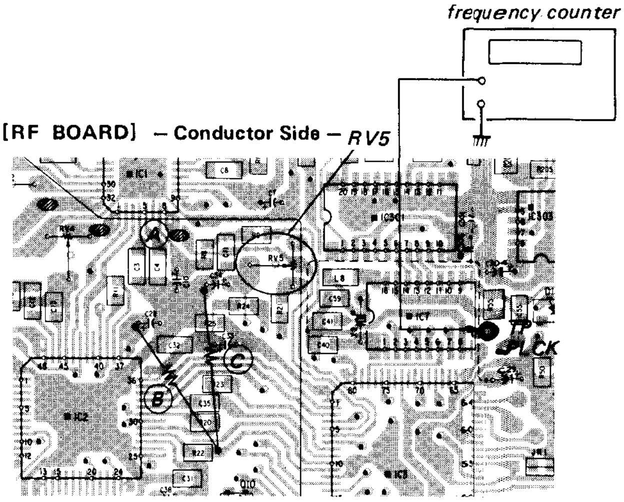
- **When gain is highered . . .**
  The set does not play because of no focus operation.
- **When gain is highered . . .**
  Operation noise is heard due to a scratch or a dust, then operation will be unstable.

5. PLL Freerun Frequency Adjustment

Procedure:

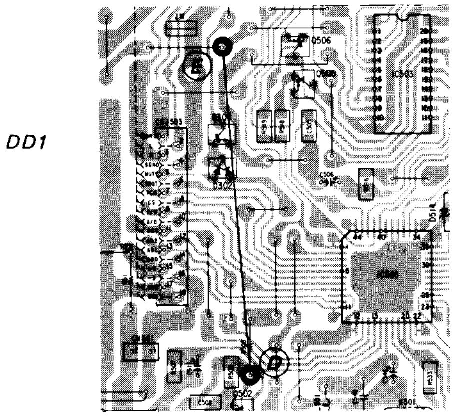
1. Unsolder the solder bridge at Ⓐ.
   (IC3 pin ⑤ is opened)
2. Connect 100 kΩ resistors to Ⓑ, Ⓒ.
   (This is to set the IC3 pin ⑪ voltage to 2.5 V)
3. Install a test jumper wire between Ⓓ and Ⓔ on the jack board to pull up the P/C terminal of the DC-DC converter ⊖.
4. Connect the frequency counter to RF board test point $\boxed{\text{PLCK}}$ (IC3 pin (70)).
5. Turn the power switch on (Do not use the disc), then adjust RV5 so that the frequency is 4.3218 MHz ±10 kHz.
6. After adjusting, reset 1, 2 and 3 as original.


+5 V
IC3
11
B
100k R521
C
100k
Resistors added when adjusting.


frequency counter
RV5
A
B
C
PLCK

[RF BOARD] – Conductor Side –

[JACK BOARD] – Conductor Side –



SECTION 5
DIAGRAMS

5-1. RF PRINTED WIRING BOARD

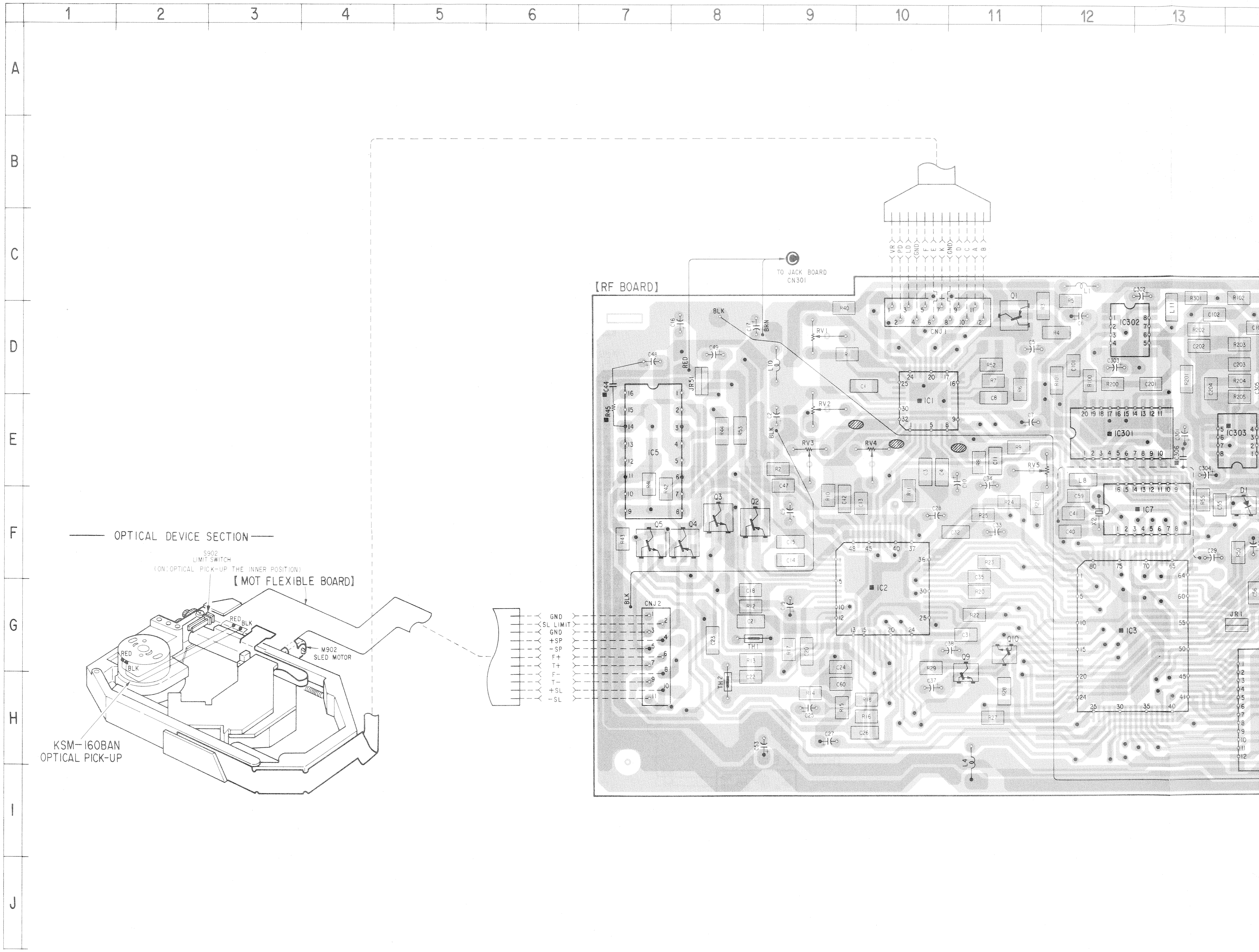
- See pages 21 to 23 for Schematic Diagram.
- See page 26 for Semiconductor Lead Layouts.

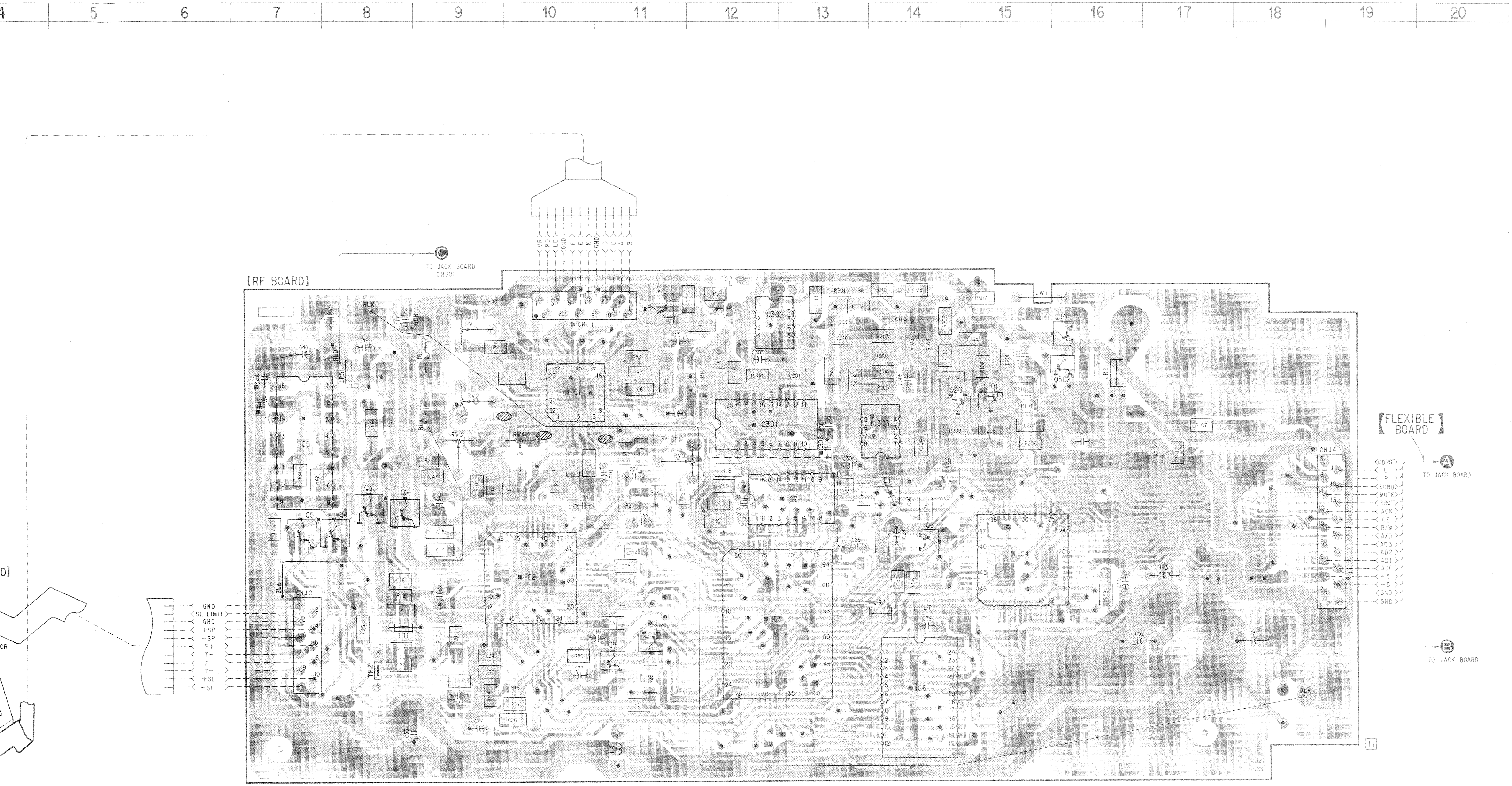
Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ● : Through hole.
- ░ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

● Semiconductor Location

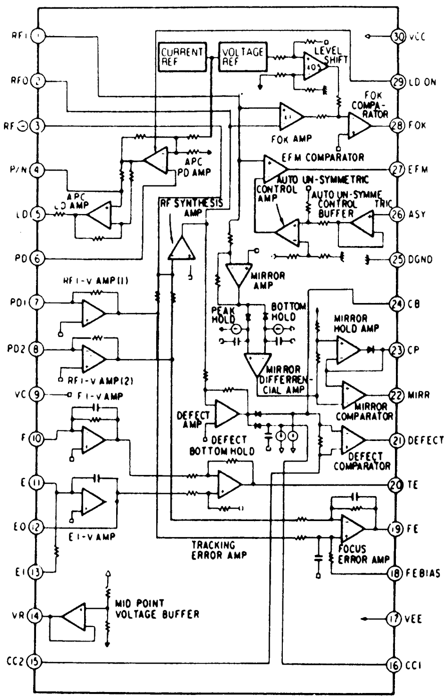
Ref. No.	Location
D1	F-14
IC1	E-10
IC2	G-10
IC3	G-12
IC4	F-15
IC5	E-7
IC6	H-14
IC7	F-13
IC301	E-12
IC302	D-12
IC303	E-14
Q1	D-11
Q2	F-8
Q3	F-8
Q4	F-8
Q5	F-7
Q6	F-14
Q8	E-14
Q9	H-11
Q10	G-11
Q101	E-15
Q201	E-15
Q301	D-16
Q302	D-16


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
OPTICAL DEVICE SECTION
S902
LIMIT SWITCH
(ON:OPTICAL PICK-UP THE INNER POSITION)
【MOT FLEXIBLE BOARD】
RED
BLK
M902
SLED MOTOR
KSM-160BAN
OPTICAL PICK-UP
GND
SL LIMIT
GND
+SP
-SP
F+
T+
F-
T-
+SL
-SL
【RF BOARD】
TO JACK BOARD
CN301
VR
PD
LD
GND
F
E
K
GND
D
C
A
B
CNJ1
CNJ2
BLK
BRN
RED
IC1
IC2
IC3
IC5
IC7
IC301
IC302
IC303
Q1
Q2
Q3
Q4
Q5
Q9
Q10
D1
RV1
RV2
RV3
RV4
RV5
JR1
JR51
TH1
TH2
X2
L1
L2
L4
L8
L10

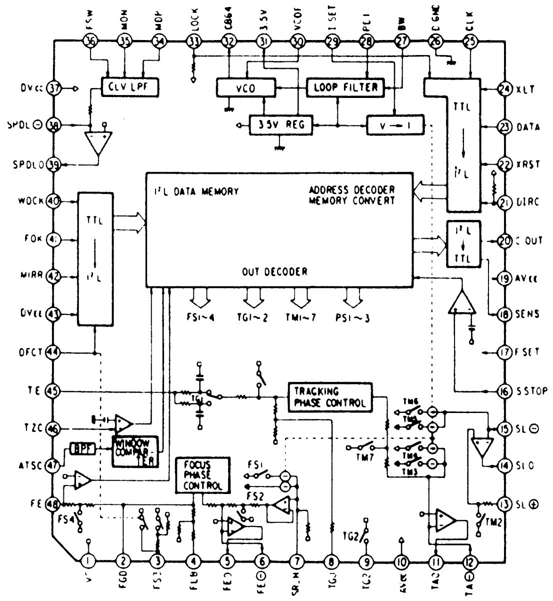
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
【RF BOARD】
TO JACK BOARD
CN301
VR
PD
LD
GND
F
E
X
GND
D
C
A
B
CNJ1
BLK
BRN
RED
JR51
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC301
IC302
IC303
Q1
Q2
Q3
Q4
Q5
Q6
Q8
Q9
Q10
Q101
Q201
Q301
Q302
D1
RV1
RV2
RV3
RV4
RV5
L1
L2
L3
L4
L7
L8
L10
L11
TH1
TH2
JR1
JR2
JW1
X2
CNJ2
GND
SL LIMIT
GND
+SP
−SP
F+
T+
F−
T−
+SL
−SL
【FLEXIBLE BOARD】
CNJ4
CDRST
L
R
SGND
MUTE
SRQT
ACK
CS
R/W
A/D
AD3
AD2
AD1
AD0
+5
−5
GND
GND
TO JACK BOARD
TO JACK BOARD
A
B
C
D]
OR
II

5-2. IC BLOCK DIAGRAMS

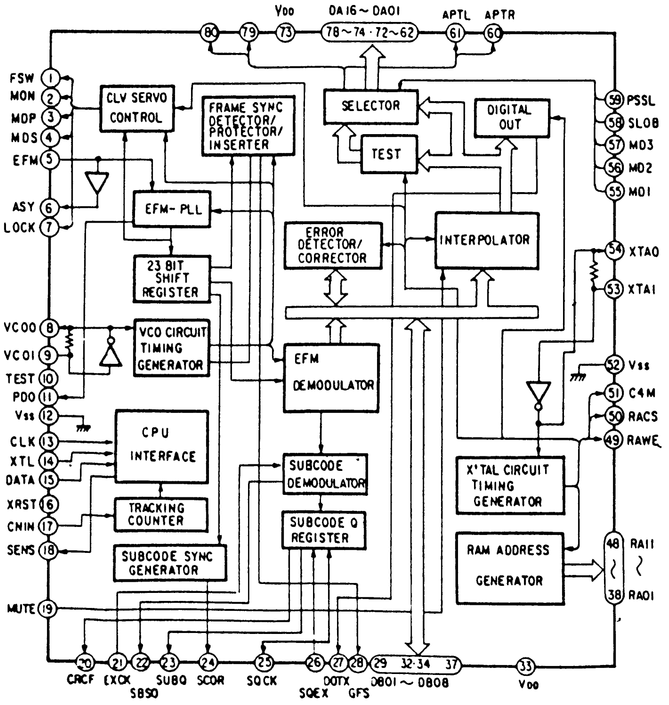
IC1 CXA-1081Q


RF I
RFO
RF⊖
P/N
LD
PD
PD1
PD2
VC
F
E
EO
EI
VR
CC2
VCC
LD ON
FOK
EFM
ASY
DGND
CB
CP
MIRR
DEFECT
TE
FE
FEBIAS
VEE
CCI
CURRENT REF
VOLTAGE REF
LEVEL SHIFT
FOK COMPARATOR
FOK AMP
EFM COMPARATOR
APC PD AMP
APC LD AMP
AUTO UN-SYMMETRIC CONTROL AMP
AUTO UN-SYMMETRIC CONTROL BUFFER
RF SYNTHESIS AMP
MIRROR AMP
RFI-V AMP(1)
RFI-V AMP(2)
FI-V AMP
PEAK HOLD
BOTTOM HOLD
MIRROR HOLD AMP
MIRROR DIFFERENCIAL AMP
MIRROR COMPARATOR
DEFECT AMP
DEFECT BOTTOM HOLD
DEFECT COMPARATOR
EI-V AMP
TRACKING ERROR AMP
FOCUS ERROR AMP
MID POINT VOLTAGE BUFFER

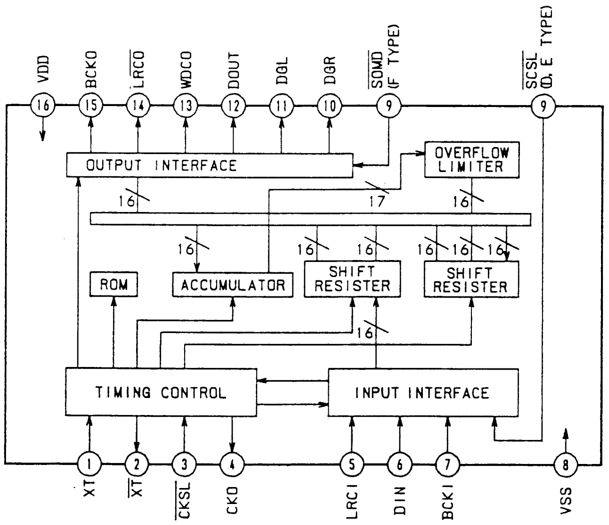
IC2 CXA1082Q


FSW
MON
MDP
LOCK
C864
3.5V
VCOI
ISET
PEI
BW
DGND
CLK
DVcc
SPDL⊖
SPDL⊕
WDCK
FOK
MIRR
DVEE
DFCT
TE
TZC
ATSC
FE
XLT
DATA
XRST
DIRC
C OUT
AVEE
SENS
FSET
SSTOP
SL⊖
SL O
SL⊕
CLV LPF
VCO
LOOP FILTER
3.5V REG
V→I
TTL
I²L
I²L DATA MEMORY
ADDRESS DECODER MEMORY CONVERT
OUT DECODER
FSI~4
TGI~2
TMI~7
PSI~3
TRACKING PHASE CONTROL
WINDOW COMPARATER
BPF
FOCUS PHASE CONTROL
FS1
FS2
FS4
TM1
TM2
TM3
TM4
TM5
TM6
TM7
TG1
TG2
FGD
FS3
FLB
FE⊖
FE⊕
SRCH
TGU
TG2
AVCC
TA⊖
TA⊕

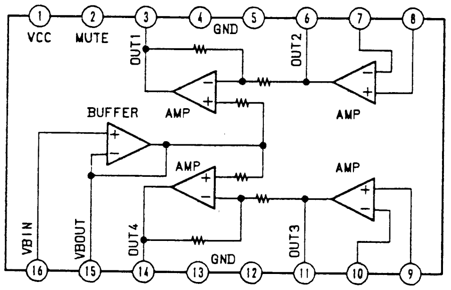
IC3 CXD1125Q


VDD
DA16~DA01
APTL
APTR
78~74 72~62
FSW
MON
MDP
MDS
EFM
ASY
LOCK
VCOO
VCOI
TEST
PDO
VSS
CLK
XTL
DATA
XRST
CNIN
SENS
MUTE
PSSL
SLOB
MD3
MD2
MD1
XTAO
XTAI
VSS
C4M
RACS
RAWE
RA11
RA01
CLV SERVO CONTROL
FRAME SYNC DETECTOR/ PROTECTOR/ INSERTER
SELECTOR
TEST
DIGITAL OUT
EFM-PLL
ERROR DETECTOR/ CORRECTOR
INTERPOLATOR
23 BIT SHIFT REGISTER
VCO CIRCUIT TIMING GENERATOR
EFM DEMODULATOR
CPU INTERFACE
SUBCODE DEMODULATOR
TRACKING COUNTER
SUBCODE Q REGISTER
SUBCODE SYNC GENERATOR
X'TAL CIRCUIT TIMING GENERATOR
RAM ADDRESS GENERATOR
CRCF
EXCK
SBSO
SUBQ
SCOR
SQCK
DOTX
SQEX
GFS
DB01~DB08
VDD

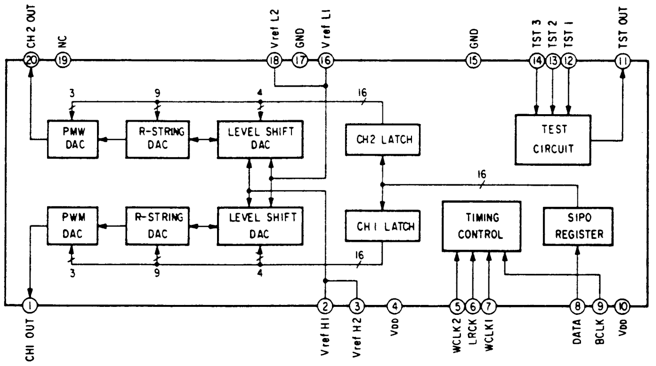
IC7 CXD1316DM


VDD
BCKO
LRCO
WDCO
DOUT
DGL
DGR
SOWD (F TYPE)
SCSL (D, E TYPE)
OUTPUT INTERFACE
OVERFLOW LIMITER
16
17
ROM
ACCUMULATOR
SHIFT RESISTER
TIMING CONTROL
INPUT INTERFACE
XT
XT
CKSL
CKO
LRCI
DIN
BCKI
VSS

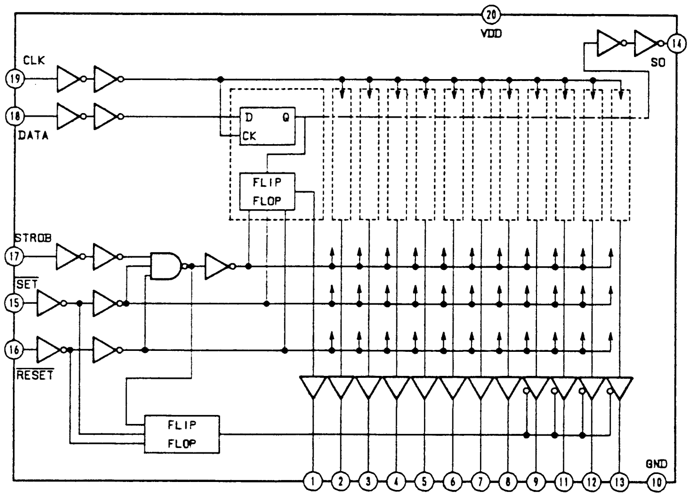
IC5 LA6530


VCC
MUTE
GND
OUT1
OUT2
BUFFER
AMP
AMP
AMP
AMP
VBIN
VBOUT
OUT4
GND
OUT3

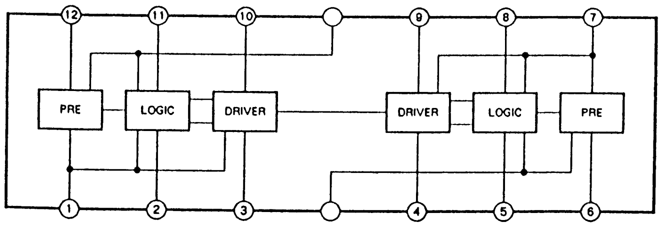
IC301 CXD1161M-2


CH 2 OUT
NC
Vref L2
GND
Vref L1
GND
TST 3
TST 2
TST 1
TST OUT
PMW DAC
R-STRING DAC
LEVEL SHIFT DAC
CH2 LATCH
TEST CIRCUIT
PWM DAC
R-STRING DAC
LEVEL SHIFT DAC
CH1 LATCH
TIMING CONTROL
SIPO REGISTER
3
9
4
16
CH1 OUT
Vref H1
Vref H2
VDD
WCLK2
LRCK
WCLK1
DATA
BCLK
VDD

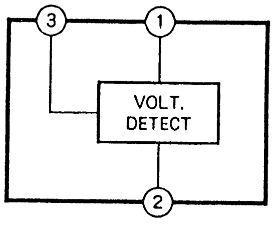
IC503 CX-7991


VDD
CLK
DATA
SO
D
Q
CK
FLIP FLOP
STROB
SET
RESET
FLIP FLOP
GND

IC501, 507 LB1649


PRE
LOGIC
DRIVER
DRIVER
LOGIC
PRE

IC502 S-8054HN-CB


VOLT. DETECT

5-3. OTHER PRINTED WIRING BOARDS

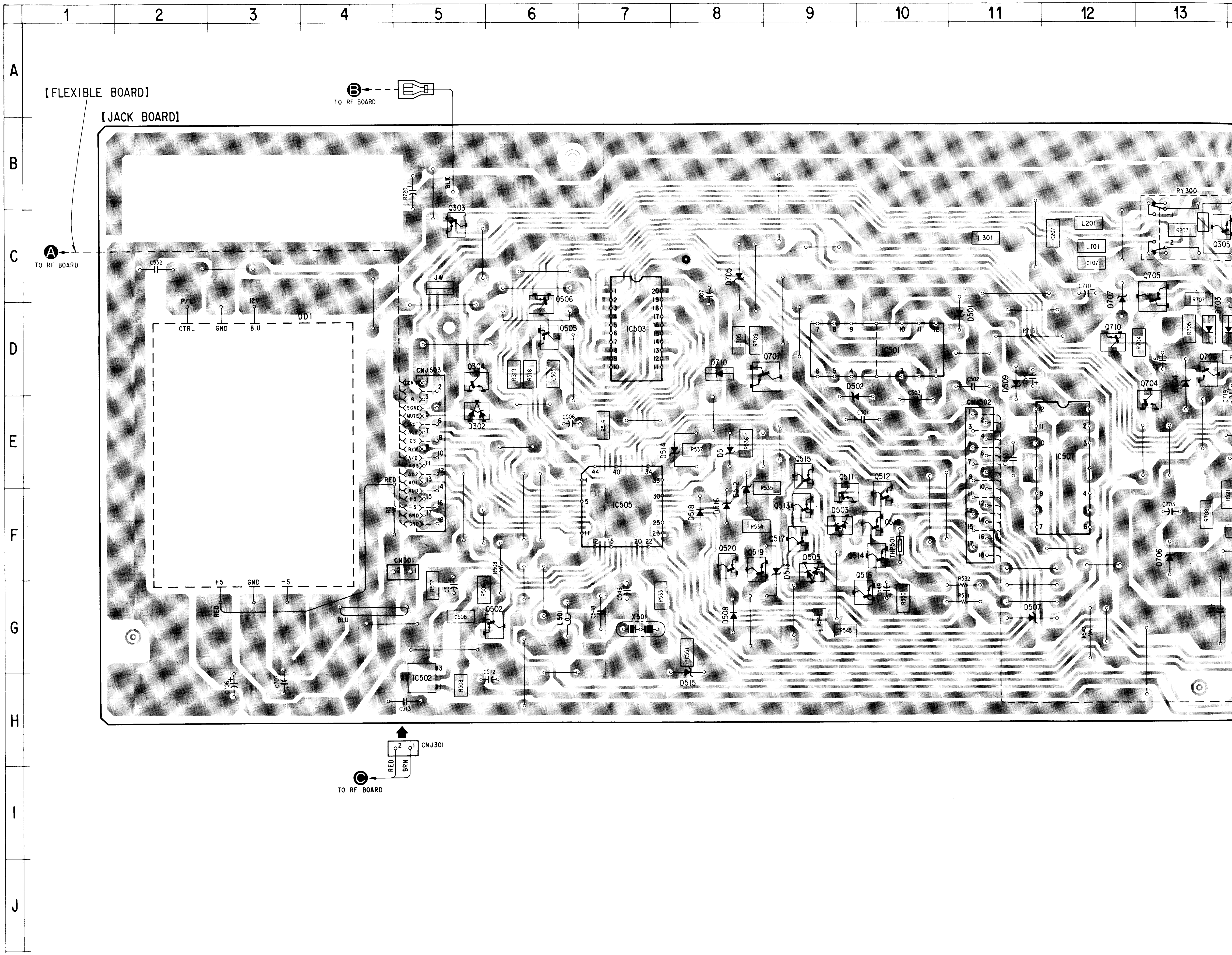
- See pages 11 to 13 for RF Printed Wiring Board.
- See page 26 for Semiconductor Lead Layouts.

Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	C-14	Q303	C-5
D302	E-5	Q304	D-5
D303	C-14	Q305	C-13
D401	E-27	Q401	J-28
D402	J-28	Q402	E-27
D403	G-21	Q403	C-21
D404	G-21	Q502	G-6
D405	G-20	Q505	D-6
D501	D-11	Q506	D-6
D502	E-10	Q511	F-9
D503	F-9	Q512	F-10
D505	F-9	Q513	F-9
D507	G-11	Q514	F-10
D508	G-8	Q515	E-9
D509	D-11	Q516	G-10
D511	F-8	Q517	F-9
D512	F-8	Q518	F-10
D513	F-9	Q519	F-8
D514	E-8	Q520	F-8
D515	H-8	Q523	G-15
D516	F-8	Q524	G-15
D518	F-8	Q704	E-13
D703	D-13	Q705	C-13
D704	D-13	Q706	D-13
D705	C-8	Q707	D-9
D706	F-13	Q710	D-12
D707	D-12		
D708	D-14		
D709	F-14		
D710	D-8		
IC501	D-10		
IC502	H-5		
IC503	D-7		
IC505	F-7		
IC507	E-12		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12
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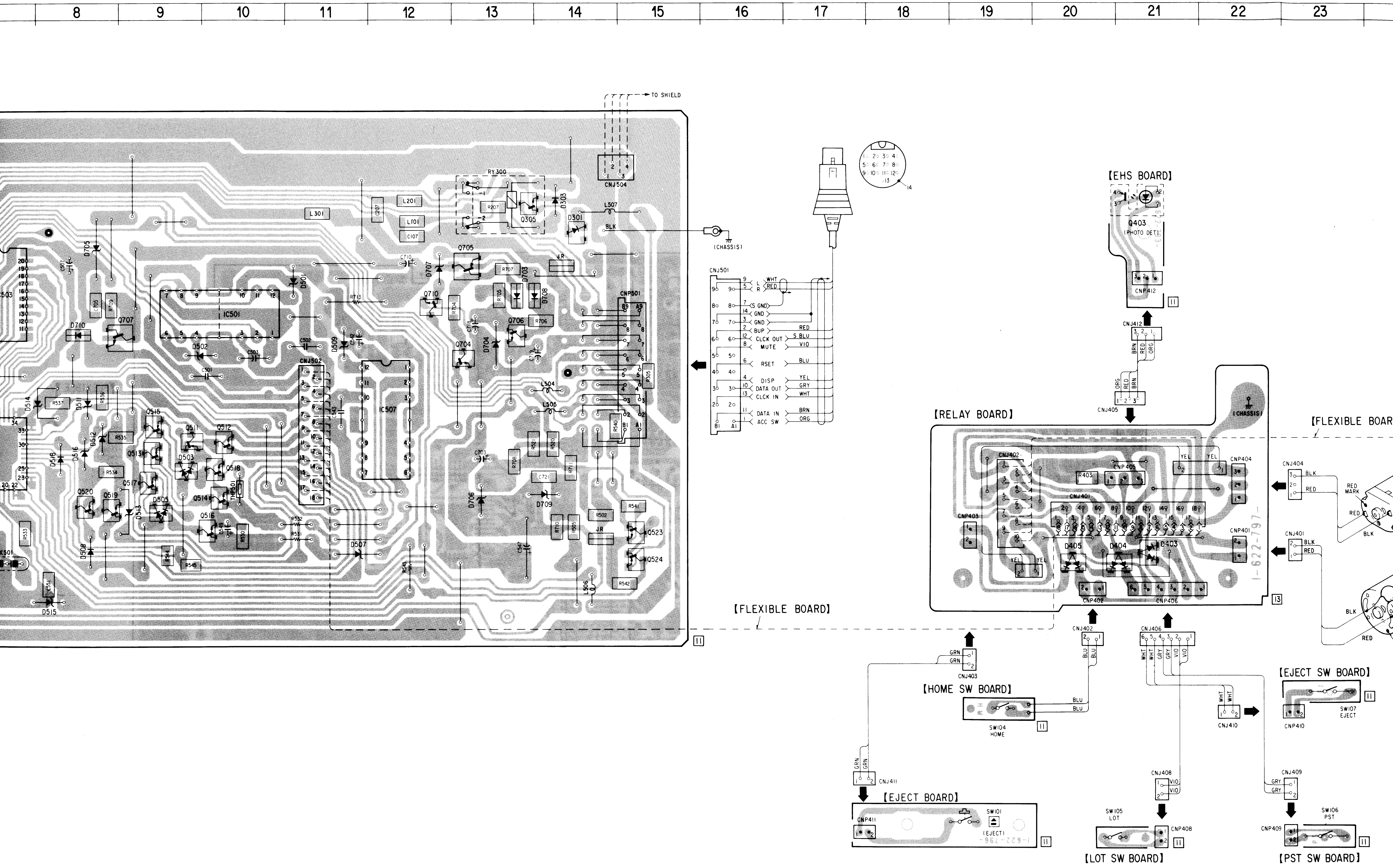
A
B
C
D
E
F
G
H
I
J
【FLEXIBLE BOARD】
【JACK BOARD】
TO RF BOARD
TO RF BOARD
TO RF BOARD
BLK
RED
BLU
BRN
P/L
12V
CTRL
GND
B.U
DD1
+5
GND
-5
CNJ503
CNJ502
CN301
CNJ301
IC501
IC502
IC503
IC505
IC507
Q303
Q304
Q305
Q502
Q505
Q506
Q511
Q512
Q513
Q514
Q515
Q516
Q517
Q518
Q519
Q520
Q704
Q705
Q706
Q707
Q710
D302
D501
D502
D503
D505
D507
D508
D509
D511
D512
D513
D514
D515
D516
D518
D703
D704
D705
D706
D707
D710
X501
L501
L201
L101
L301
RY300
JW
THP501


8
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14
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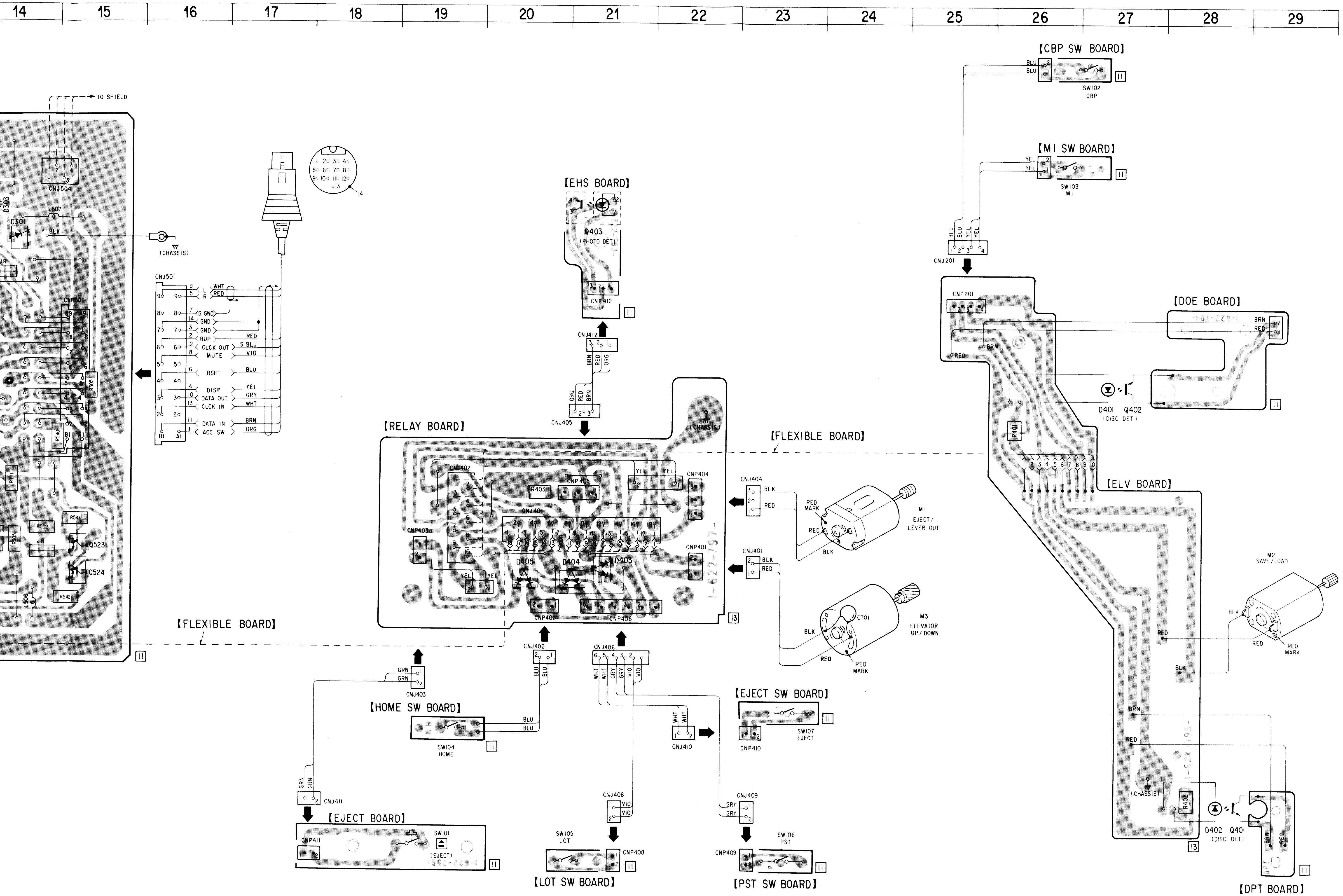
16
17
18
19
20
21
22
23
TO SHIELD
CNJ504
RY300
R207
Q305
D303
D301
L507
BLK
(CHASSIS)
L301
L201
L101
C107
C207
C710
D705
D707
Q705
R707
D703
D708
JR
D501
IC501
R713
C502
D502
C503
C501
D710
Q707
D509
C542
Q710
R704
C718
Q706
R706
D704
Q704
CNJ502
IC507
C543
CNP501
R305
L504
L505
R540
D514
R537
D511
R536
D512
R535
D516
Q515
Q513
Q511
Q512
D503
Q518
R534
Q517
Q520
Q519
D513
D505
Q514
THP501
Q516
R530
R532
R531
D518
R533
D508
R544
R549
C551
D515
D507
R543
C547
C703
R708
R521
R520
R711
C721
D706
D709
R710
R505
R502
JR
R541
Q523
Q524
R542
L506
IC503
CNJ501
WHT
RED
L
R
S GND
GND
GND
BUP
CLCK OUT
MUTE
RSET
DISP
DATA OUT
CLCK IN
DATA IN
ACC SW
RED
S BLU
VIO
BLU
YEL
GRY
WHT
BRN
ORG
【FLEXIBLE BOARD】
11
【EHS BOARD】
Q403
(PHOTO DET)
CNP412
CNJ412
BRN
RED
ORG
CNJ405
【RELAY BOARD】
CNJ402
CNP405
R403
CNJ401
CNP403
D405
D404
D403
YEL
CNP404
CNP401
CNP402
CNP406
(CHASSIS)
1-622-797-
13
【FLEXIBLE BOARD】
CNJ404
BLK
RED
RED MARK
CNJ401
CNJ402
BLU
CNJ406
WHT
GRY
VIO
GRN
CNJ403
【HOME SW BOARD】
SW104
HOME
CNJ410
【EJECT SW BOARD】
CNP410
SW107
EJECT
CNJ411
【EJECT BOARD】
CNP411
SW101
(EJECT)
1-622-796-
CNJ408
SW105
LOT
CNP408
【LOT SW BOARD】
CNJ409
SW106
PST
CNP409
【PST SW BOARD】



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23
24
25
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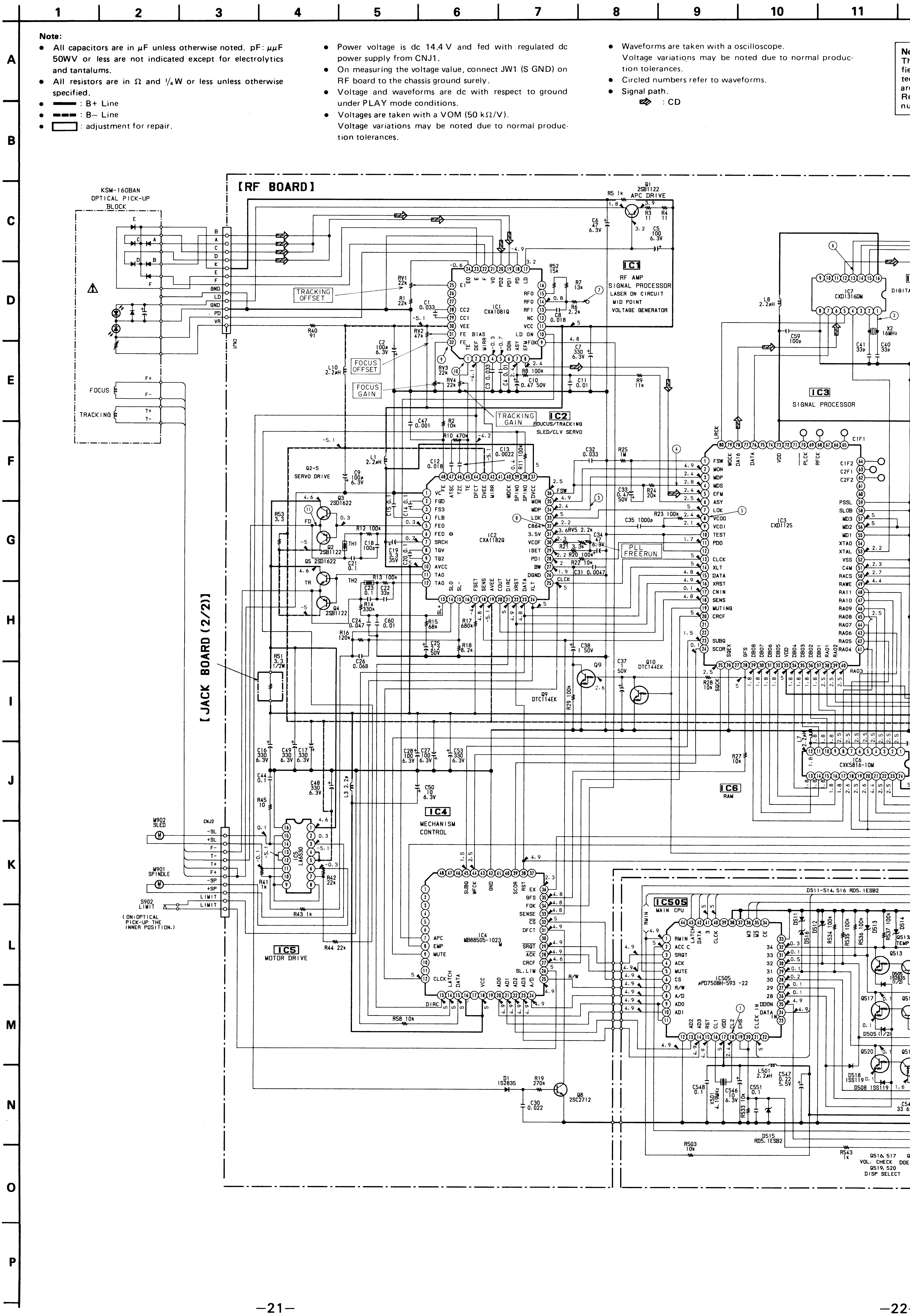
27
28
29
TO SHIELD
CNJ504
D303
L507
D301
BLK
(CHASSIS)
CNP301
R305
R540
R711
R502
R541
R505
JR
Q523
Q524
R542
L506
CNJ501
WHT
RED
L
R
S GND
GND
GND
BUP
CLCK OUT
MUTE
RSET
DISP
DATA OUT
CLCK IN
DATA IN
ACC SW
S BLU
VIO
BLU
YEL
GRY
WHT
BRN
ORG
[FLEXIBLE BOARD]
[EHS BOARD]
Q403
(PHOTO DET)
CNP412
CNJ412
CNJ405
[RELAY BOARD]
(CHASSIS)
CNJ402
CNP405
R403
CNJ401
CNP403
CNP404
CNP401
D405
D404
D403
CNP402
CNP406
1-622-797-
CNJ404
BLK
RED
RED MARK
M1
EJECT/LEVER OUT
M3
ELEVATOR UP/DOWN
C701
[FLEXIBLE BOARD]
[CBP SW BOARD]
SW102
CBP
[M1 SW BOARD]
SW103
M1
CNJ201
CNP201
[DOE BOARD]
D401
Q402
(DISC DET)
R401
[ELV BOARD]
M2
SAVE/LOAD
R402
D402
Q401
(DISC DET)
[DPT BOARD]
1-622-795-
CNJ403
GRN
[HOME SW BOARD]
SW104
HOME
CNJ406
CNJ410
[EJECT SW BOARD]
SW107
EJECT
CNP410
CNJ411
[EJECT BOARD]
CNP411
SW101
(EJECT)
CNJ408
SW105
LOT
CNP408
[LOT SW BOARD]
CNJ409
SW106
PST
CNP409
[PST SW BOARD]
11
13

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¹/₄W or less unless otherwise specified.
- ▬▬ : B+ Line
- ▬ ▬ : B– Line
- ☐ : adjustment for repair.

- Power voltage is dc 14.4 V and fed with regulated dc power supply from CNJ1.
- On measuring the voltage value, connect JW1 (S GND) on RF board to the chassis ground surely.
- Voltage and waveforms are dc with respect to ground under PLAY mode conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.

- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD



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A
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C
D
E
F
G
H
I
J
K
L
M
N
O
P
[RF BOARD]
[JACK BOARD (2/2)]
KSM-160BAN OPTICAL PICK-UP BLOCK
FOCUS
TRACKING
CN2
TRACKING OFFSET
FOCUS OFFSET
FOCUS GAIN
TRACKING GAIN
PLL FREERUN
Q1 2SB1122 APC DRIVE
IC1 RF AMP SIGNAL PROCESSOR LASER ON CIRCUIT MID POINT VOLTAGE GENERATOR
IC1 CXA1081Q
IC2 FOCUS/TRACKING SLED/CLV SERVO
IC2 CXA1182Q
Q2-5 SERVO DRIVE
Q3 2SD1622
Q2 2SB1122
Q5 2SD1622
Q4 2SB1122
IC3 SIGNAL PROCESSOR
IC3 CXD1125
IC7 CXD1316DM
X2 16MHz
IC6 CXK5816-10M
IC6 RAM
IC4 MECHANISM CONTROL
IC4 MB88505-1023
IC5 MOTOR DRIVE
IC5 LA6530
CNJ2
M902 SLED
M901 SPINDLE
S902 LIMIT
(ON:OPTICAL PICK-UP THE INNER POSITION.)
Q9 DTC114EK
Q10 DTC144EK
D1 1S2835
Q8 2SC2712
IC505 MAIN CPU
IC505 μPD7508H-593 -22
X501 4.19MHz
D511-S14, S16 RD5.1ESB2
D515 RD5.1ESB2
Q516, 517 VOL. CHECK
Q519, 520 DISP SELECT
D508 1SS119
D518 1SS119

e 24 for IC503 CX7991 Pin Function Description and Waveforms.

7 8 9 10 11 12 13 14 15 16 17 18

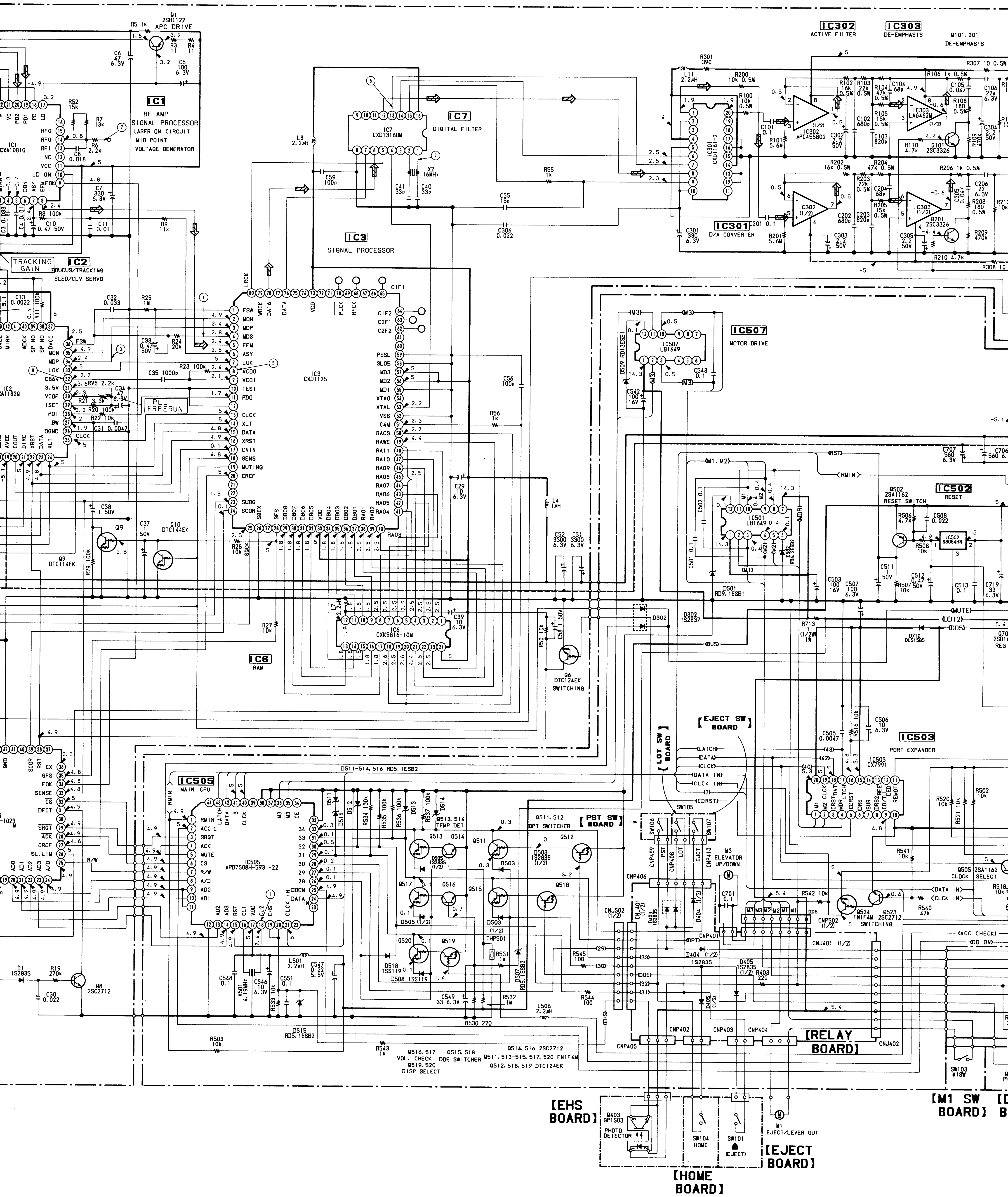
ed with regulated dc

nect JW1 (S GND) on
y.
h respect to ground

kΩ/V).
ue to normal produc-

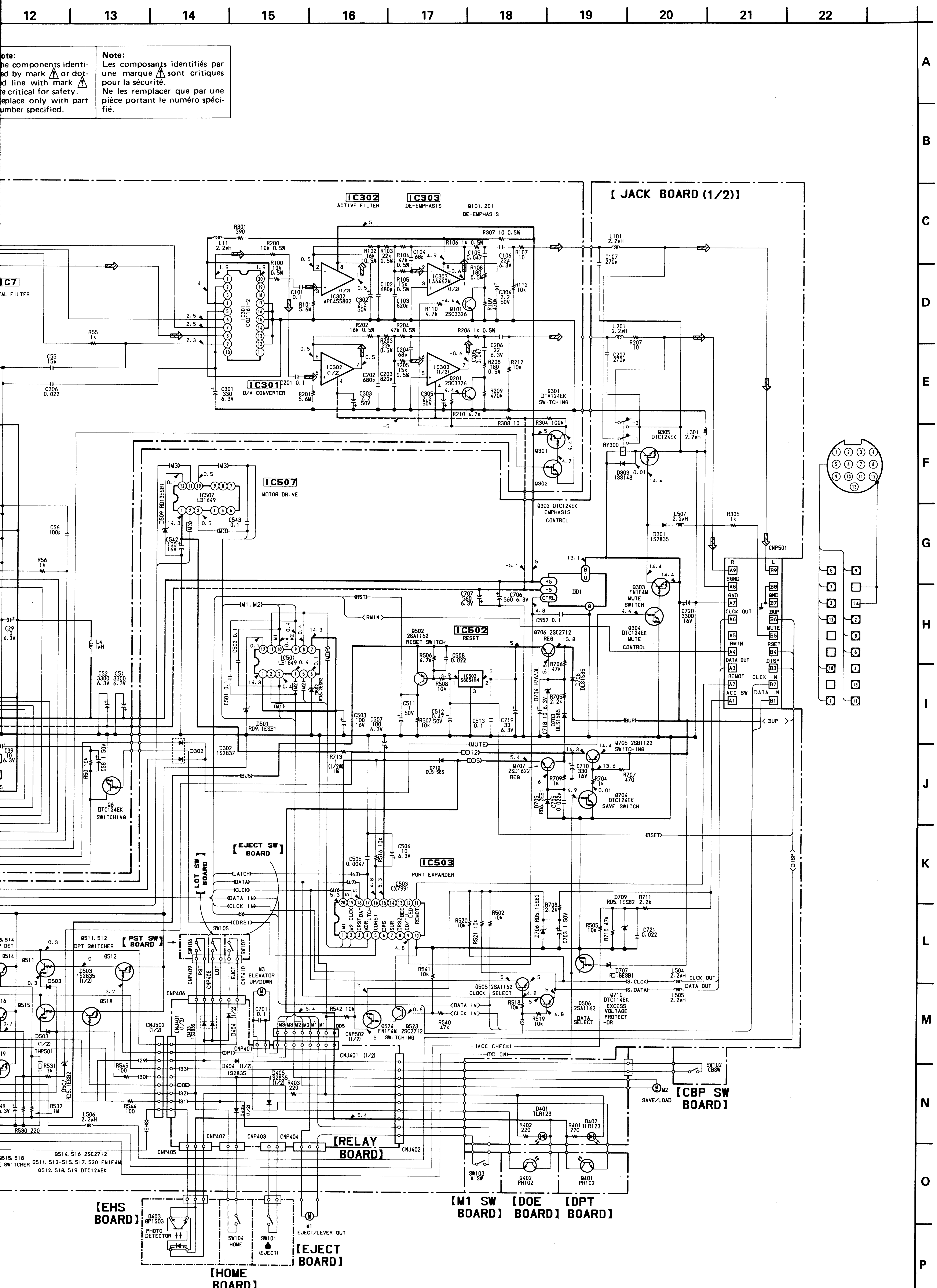
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


IC1
RF AMP
SIGNAL PROCESSOR
LASER ON CIRCUIT
MID POINT
VOLTAGE GENERATOR
Q1 2SB1122 APC DRIVE
IC2
FOUCUS/TRACKING
SLED/CLV SERVO
TRACKING GAIN
PLL FREERUN
IC3
SIGNAL PROCESSOR
CXD1125
IC7
DIGITAL FILTER
CXD1316DM
X2 16MHz
IC6
RAM
CXK5816-10M
Q6 DTC124EK SWITCHING
Q9 DTC114EK
Q10 DTC144EK
Q8 2SC2712
IC301
D/A CONVERTER
CXD1161-2
IC302
ACTIVE FILTER
μPC4558B2
IC303
DE-EMPHASIS
LA6462M
Q101, 201
DE-EMPHASIS
2SC3326
IC507
MOTOR DRIVE
LB1649
IC501 LB1649
IC502
RESET
S8054HN
Q502 2SA1162 RESET SWITCH
IC503
PORT EXPANDER
CX7991
IC505
MAIN CPU
μPD7508H-593-22
Q511, 512 DPT SWITCHER
Q513, 514 TEMP DET
Q516, 517 VOL. CHECK
Q515, 518 DOE SWITCHER
Q519, 520 DISP SELECT
Q514, 516 2SC2712
Q511, 513-515, 517, 520 FN1F4M
Q512, 518, 519 DTC124EK
Q524 FN1F4M Q523 2SC2712 SWITCHING
Q505 2SA1162 CLOCK SELECT
D710 DLS1585
D302 1S2837
[EJECT SW BOARD]
[LOT SW BOARD]
[PST SW BOARD]
M3 ELEVATOR UP/DOWN
[RELAY BOARD]
[EHS BOARD]
Q403 GP1S03 PHOTO DETECTOR
SW104 HOME
SW101 (EJECT)
M1 EJECT/LEVER OUT
[EJECT BOARD]
[HOME BOARD]
[M1 SW BOARD]
SW103 M1SW

ote:
he components identi-
ed by mark ⚠ or dot-
d line with mark ⚠
e critical for safety.
eplace only with part
umber specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.



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A
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C
D
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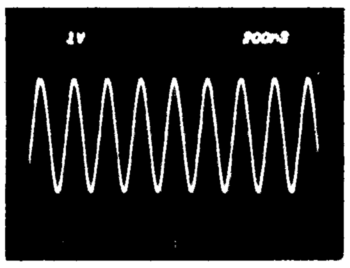
H
I
J
K
L
M
N
O
P
IC302
ACTIVE FILTER
IC303
DE-EMPHASIS
Q101, 201
DE-EMPHASIS
[JACK BOARD (1/2)]
IC7
TAL FILTER
IC301
D/A CONVERTER
IC301 CXD1161-2
IC302 μPC4558G2
IC303 LA6462M
Q101 2SC3326
Q201 2SC3326
Q301 DTA124EK SWITCHING
Q302 DTC124EK EMPHASIS CONTROL
Q305 DTC124EK
RY300
D303 1SS148
IC507
MOTOR DRIVE
IC507 LB1649
D509 RD13ESB1
IC502
RESET
Q502 2SA1162 RESET SWITCH
IC502 S8054HN
IC501 LB1649
D501 RD9.1ESB1
D302 1S2837
Q706 2SC2712 REG
D704 HZ6A3L
D708 DLS1585
D703 DLS1585
Q303 FN1F4M MUTE SWITCH
Q304 DTC124EK MUTE CONTROL
DD1
CNP501
Q705 2SB1122 SWITCHING
Q707 2SD1622 REG
D710 DLS1585
D705 RD6.2EB1
Q704 DTC124EK SAVE SWITCH
Q6 DTC124EK SWITCHING
[EJECT SW BOARD]
[LOT SW BOARD]
IC503
PORT EXPANDER
IC503 CX7991
D706 RD5.1ESB2
D709 RD5.1ESB2
Q511, 512 DPT SWITCHER
[PST SW BOARD]
SW105 SW106 SW107
M3 ELEVATOR UP/DOWN
Q505 2SA1162 CLOCK SELECT
Q506 2SA1162 DATA SELECT
D707 RD18ESB1
Q710 DTC114EK EXCESS VOLTAGE PROTECT -OR
Q524 FN1F4M 5 SWITCHING
Q523 2SC2712
SW102 CBSW
[CBP SW BOARD]
M2 SAVE/LOAD
D401 TLR123
D402 TLR123
[RELAY BOARD]
CNJ401 (1/2)
CNJ402
CNP401 CNP402 CNP403 CNP404 CNP405 CNP406
D404 (1/2) 1S2835
D405 1S2835 (1/2)
SW103 M1SW
Q402 PH102
Q401 PH102
[M1 SW BOARD]
[DOE BOARD]
[DPT BOARD]
[EHS BOARD]
Q403 GP1S03 PHOTO DETECTOR
SW104 HOME
SW101 (EJECT)
M1 EJECT/LEVER OUT
[EJECT BOARD]
[HOME BOARD]
Q514, 516 2SC2712
Q511, 513-515, 517, 520 FN1F4M
Q512, 518, 519 DTC124EK
THP501
D507 RD5.1ESB2
D503 1S2835 (1/2)
R530 220
R532 1M
L506 2.2μH
(RST) (RMIN) (MUTE) (DD12) (DD5) (BUS) (BUP) (RSET) (DISP)
(LATCH) (DATA) (CLCK) (DATA IN) (CLCK IN) (CDRST)
(ACC CHECK) (DD ON)
(S. CLCK) (S. DATA)
CLCK OUT
DATA OUT
R
SGND
GND
CLCK OUT
RMIN
DATA OUT
REMOT
ACC SW
L
GND
BUP
MUTE
RSET
DISP
CLCK IN
DATA IN

5-5. IC503 CX7991 PIN FUNCTION DESCRIPTION

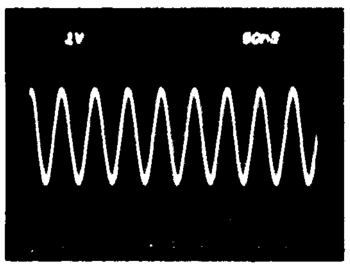
Pin No.	Description
1 – 8	Parallel output terminal. The internal register status is loaded and output using a strobe signal. When a set signal is input, "1" is output. When a reset signal is input, "0" is output.
9, 11 – 13	Parallel output terminal. The internal register status is loaded and output using a strobe signal. When a set or reset signal is input, the output becomes high impedance. The output is then enabled using a strobe signal.
10	GND
14	Serial data output terminal.
15	Set signal input terminal. Becomes active when low. When this pin is set low, the latch is set and "1" is output to pins 1 through 8 irrespective of the internal register status. Pins 9, 11, 12, and 13 then becomes high impedance.
16	Reset signal input terminal. Becomes active when low. When this pin is set low, the latch is reset and "0" is output to pins 1 through 8 irrespective of the internal register status. Pins 9, 11, 12, and 13 then becomes high impedance.
17	Strobe signal input terminal. Becomes active when high. When this pin is set high, the internal register status is shifted to the latch status.
18	Serial data input terminal. The external serial data is input.
19	Clock signal input terminal. Data is loaded when the system is initiated.
20	Power supply

5-6. WAVEFORMS

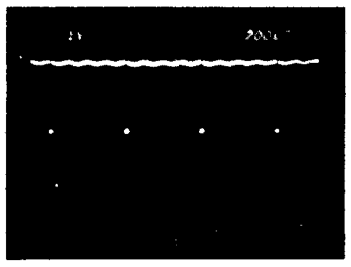
❶ IC505 pin ⑱



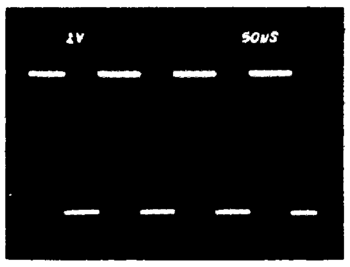
❷ IC7 pin ①



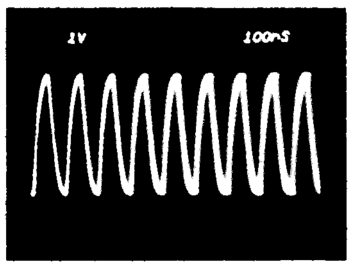
❸ IC2 pin ㉞, IC3 pin ③



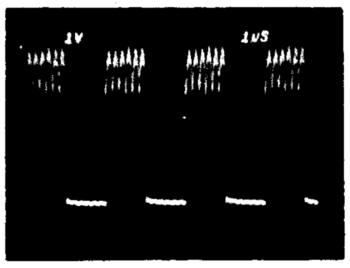
❹ IC3 pin ④



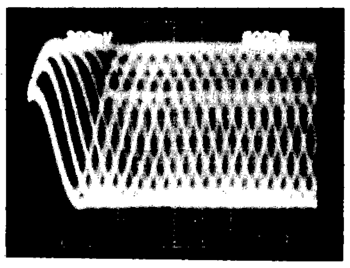
❺ IC3 pin ⑧



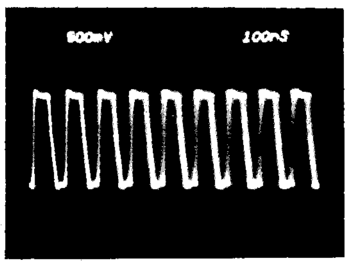
❻ IC7 pin ⑬



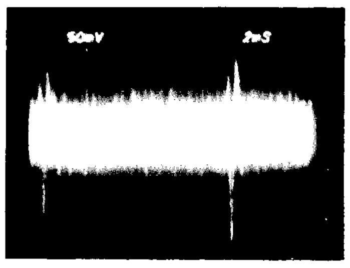
❼ IC1 pin ⑭



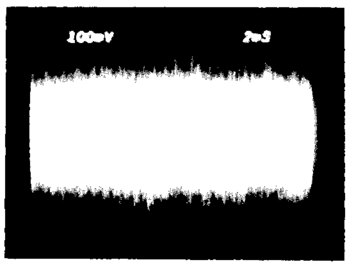
❽ IC2 pin ㉜



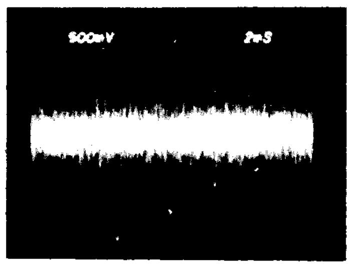
❾ IC1 pin ㉜



❿ IC1 pin ①



⓫ Q2, 3 emitter



SEC
EXPLOD

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to stan
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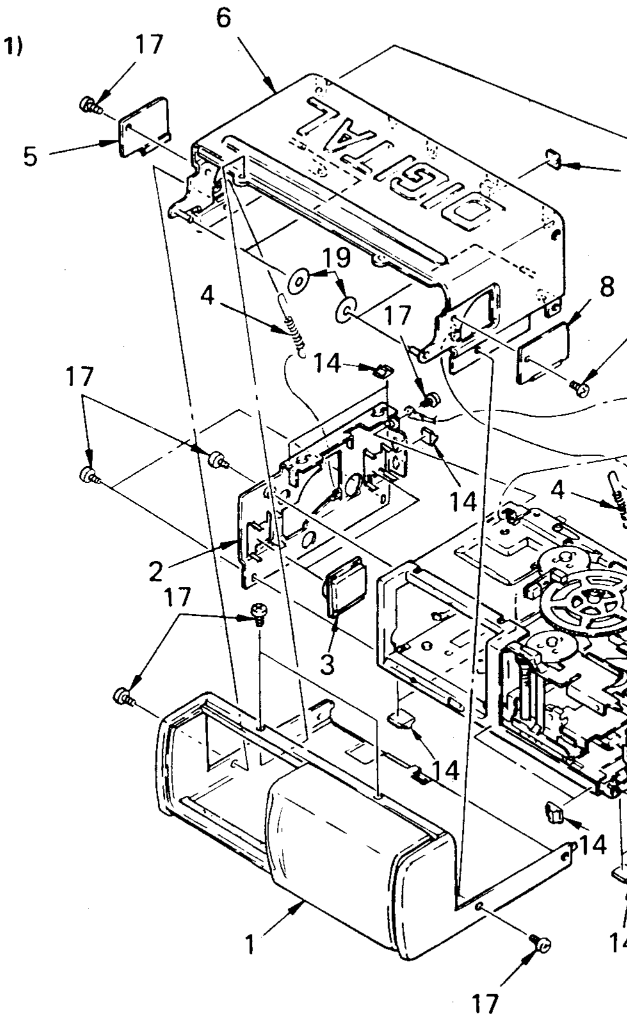
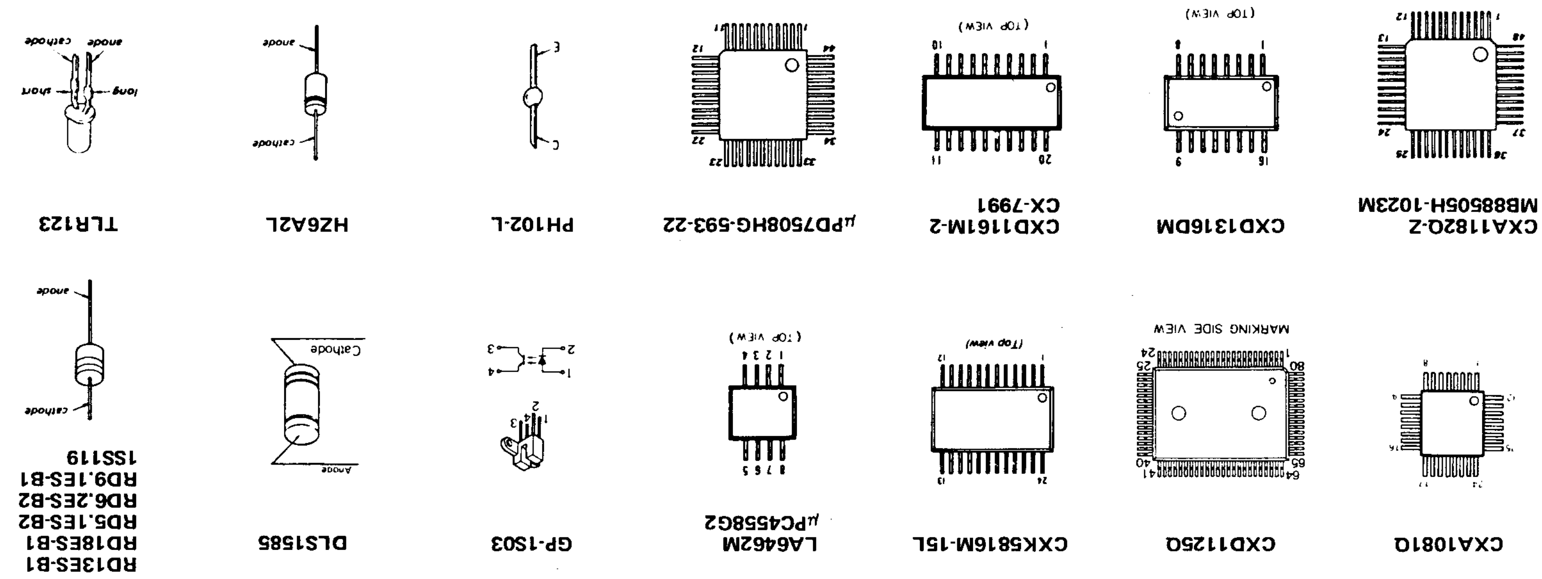
components
- Color Indic
Example:
(RED) . . .
↑
Cabinet's C

(1)



No.	Part No.	Description	Remark
1	X-3329-590-1	PANEL ASSY, FRONT	
2	*3-348-742-01	BRACKET (O DAMPER LEFT)	
3	3-348-745-01	DAMPER (OIL)	
4	3-333-068-01	SPRING (FLOATING), TENSION	
5	*3-333-069-21	COVER (LEFT), SIDE	
6	X-3329-589-1	CASE ASSY, UPPER	
7	3-831-441-11	CUSHION	
8	*3-333-070-21	COVER (RIGHT), SIDE	
9	3-333-065-01	RETAINER, 18P CONNECTOR	
10	*3-348-753-01	(US,AEP).....LABEL, MODEL NUMBER	
	*3-348-755-01	(Canadian)...LABEL, MODEL NUMBER	
	*3-348-757-01	(WG,E).......LABEL, MODEL NUMBER	
11	*3-333-078-31	CASE, BOTTOM	
12	*3-348-726-01	PLATE (VA), SHIELD	
13	*3-333-066-01	SHEET (LARGE), INSULATING	

5-7. SEMICONDUCTOR LEAD LAYOUTS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CXD1125Q
MARKING SIDE VIEW
CXK5816M-15L
(Top view)
LA6462M
μPC4558G2
(TOP VIEW)
GP-1S03
DLS1585
Cathode
Anode
RD13ES-B1
RD18ES-B1
RD5.1ES-B2
RD6.2ES-B2
RD9.1ES-B1
1SS119
anode
cathode
CXA1182Q-Z
MB88505H-1023M
CXD1316DM
CXD1161M-2
CX-7991
(TOP VIEW)
μPD7508HG-593-22
PH102-L
HZ6A2L
anode
cathode
TLR123
anode
cathode
long
short

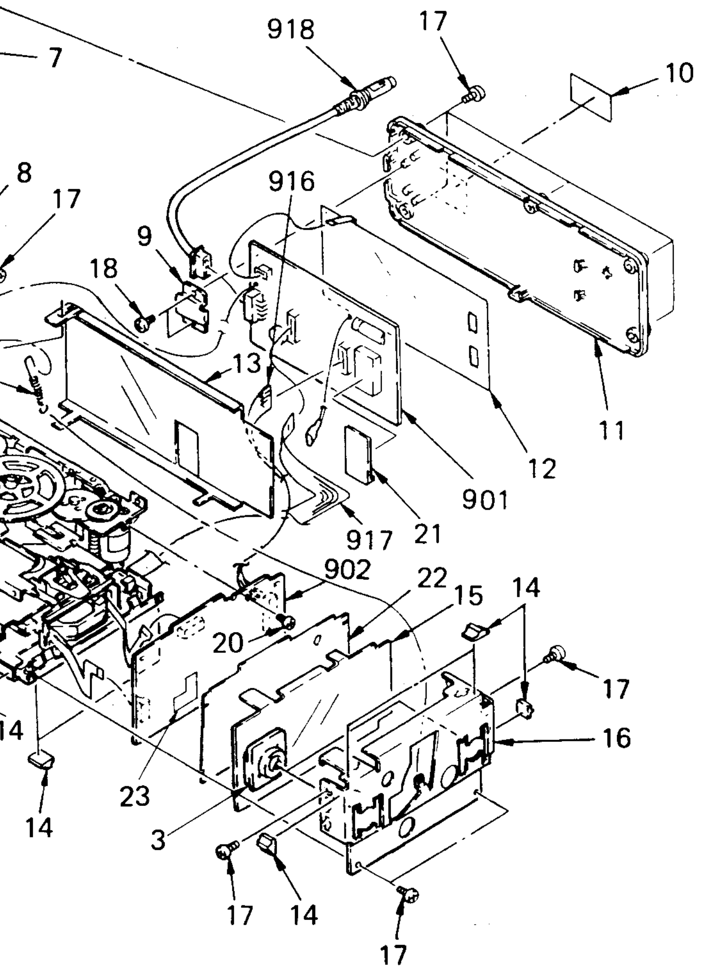
ECTION 6
ODED VIEWS

standardization, parts with part
suffix -XX and -X may be dif-
from the parts specified in the
ients used on the set.

Indication of Appearance Parts
e:
) . . . KNOB, BALANCE (WHITE)
↑
et's Color　Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.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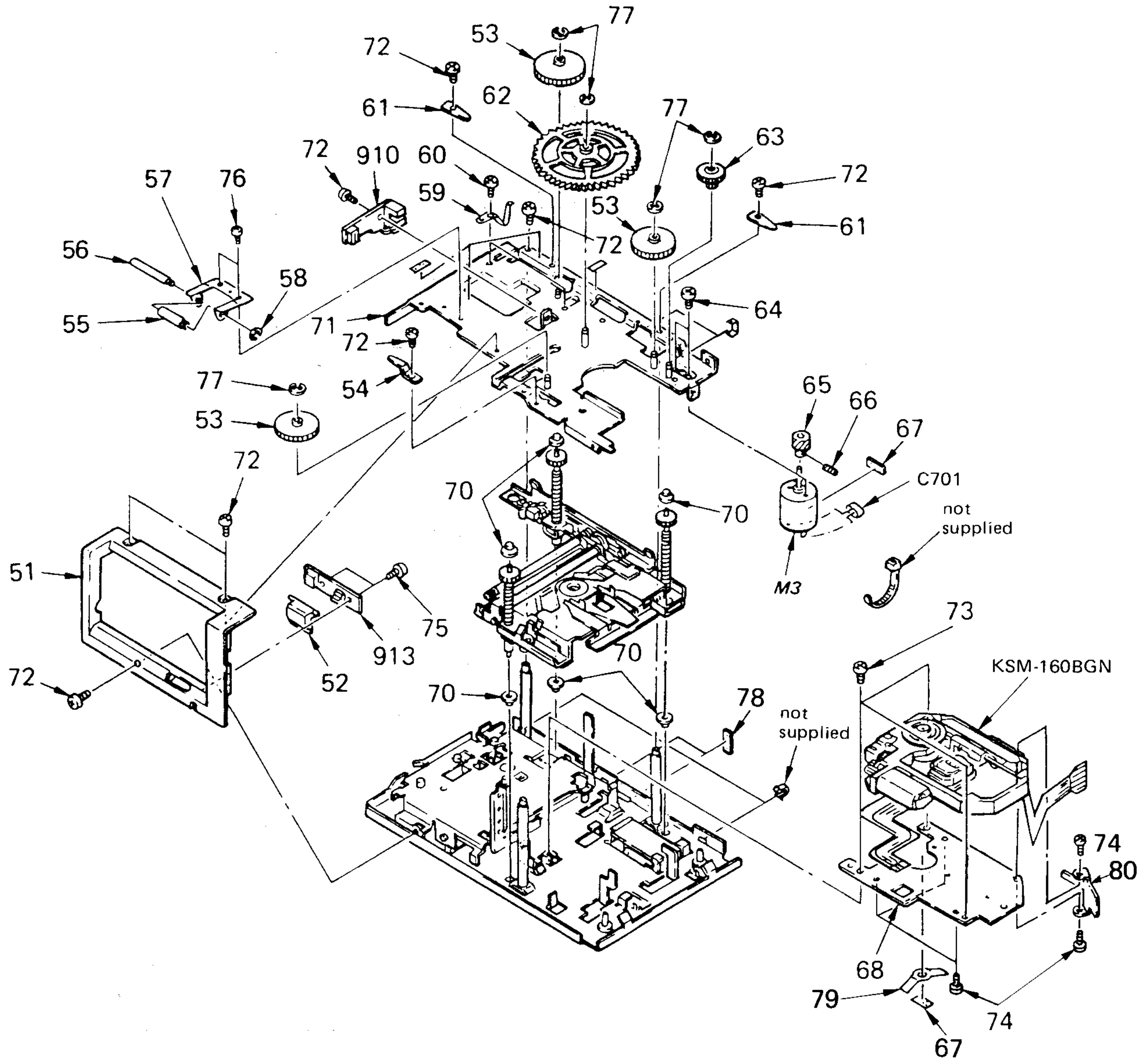
marks

No.	Part No.	Description	Remarks
14	*3-348-750-01	CUSHION (DAMPER)	
15	*3-333-073-01	SHEET (SMALL), INSULATING	
16	*3-348-743-01	BRACKET (O DAMPER RIGHT)	
17	7-682-546-09	SCREW +B 3X5	
18	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
19	3-348-749-01	WASHER (TEFLON)	
20	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
21	*3-343-739-01	PLATE, PROTECTION, FLEXIBLE	
22	*3-348-765-01	PLATE (SMALL), SHIELD	
23	*3-348-766-01	PLATE (5A), SHIELD	
901	*A-3265-018-A	MOUNTED PCB, JACK	
902	*A-3265-019-A	MOUNTED PCB, RF	
916	1-623-641-11	PC BOARD, RF FLEXIBLE	
917	1-623-642-11	PC BOARD, TRANSLATION FLEXIBLE	
918	1-559-439-11	CORD (WITH CONNECTOR)	

(2)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M3
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KSM-160BGN
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supplied
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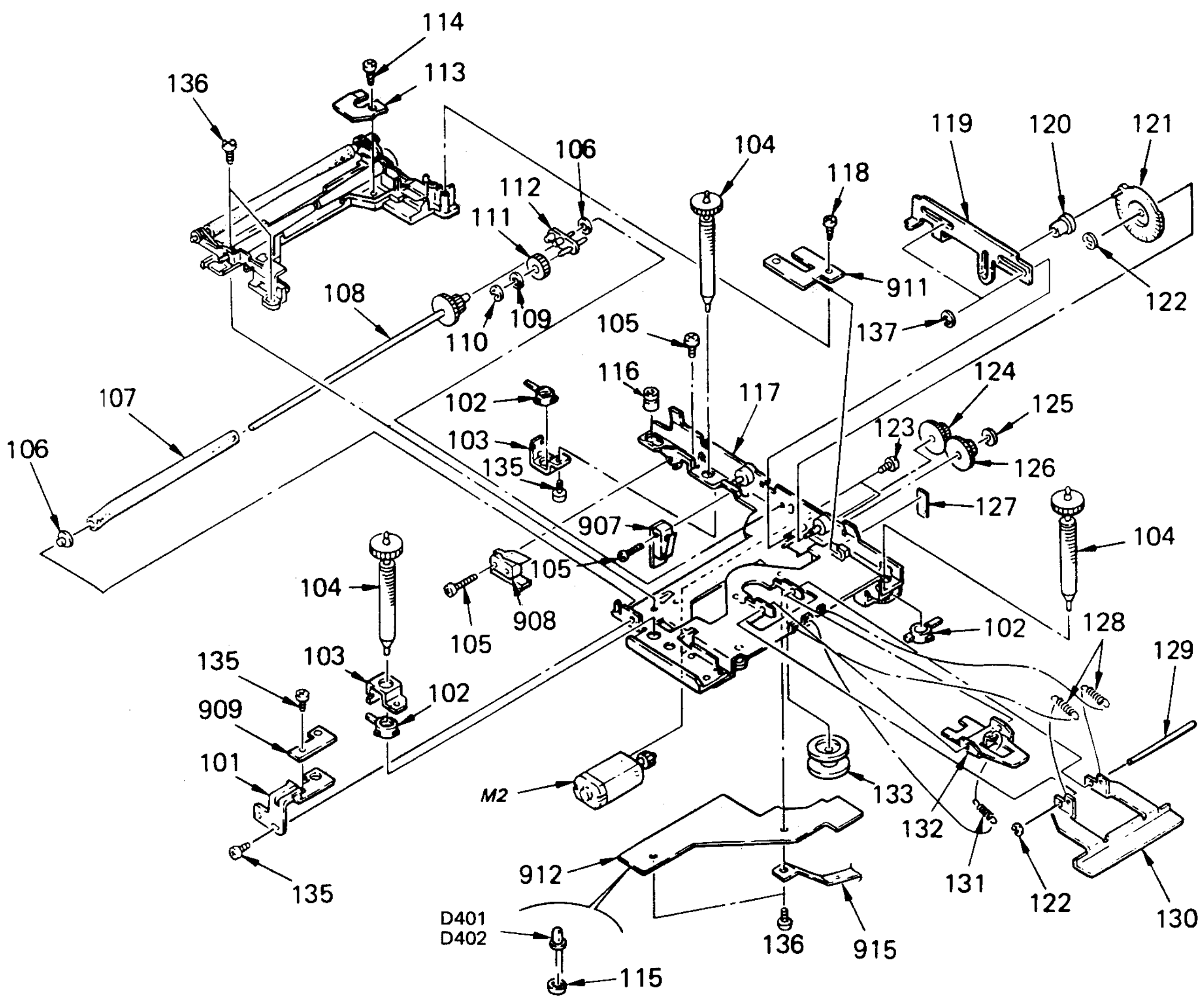
No.	Part No.	Description	Remarks
51	3-343-724-01	ESCUTCHEON	
52	3-343-712-01	BUTTON, EJECT	
53	3-331-916-01	GEAR (MIDDLE), ELEVATOR	
54	*3-333-082-01	RETAINER, SCREW, FEED	
55	3-343-708-01	ROLLER, MAGAZINE	
56	*3-343-711-01	SHAFT, ROLLER, MAGAZINE	
57	3-343-710-01	SPRING	
58	7-624-102-04	STOP RING 1.5, TYPE -E	
59	3-343-709-01	SPRING	
60	7-621-775-00	SCREW +B 2.6X3	
61	3-331-907-01	RETAINER, SCREW, FEED	
62	3-331-952-01	GEAR (LARGE), ELEVATOR	
63	3-343-707-01	GEAR (SMALL), ELEVATOR	
64	7-682-144-01	SCREW +P 3X3	
65	4-917-404-01	GEAR, MOTOR	

No.	Part No.	Description	Remarks
66	7-621-731-08	SET-SCT, HEX. 2X2.5, FLAT POINT	
67	3-831-441-11	CUSHION	
68	*3-343-714-01	BRACKET, FOP	
70	3-333-081-01	BEARING (UPPER & LOWER)	
71	*X-3329-567-1	PLATE ASSY, TOP	
72	7-685-791-09	SCREW +BVTT 2.6X5 (S)	
73	7-621-255-25	SCREW +BVTT 2X4 (S)	
74	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
75	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
76	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
80	*3-343-741-01	PLATE, GROUND	
77	7-624-118-01	RING, RETAINING E-2.5	
78	3-568-749-00	CUSHION, ECM	
79	3-348-767-01	SPRING (MOTOR GROUND)	
910	*1-622-793-11	PC BOARD, EHS	
913	*1-622-796-11	PC BOARD, EJECT	
C701	1-136-165-00	CAP, METALIZED FILM 0.1MF	
M3	1-541-309-11	MOTOR, L (RF-370C)	

(3)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M2
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D401
D402
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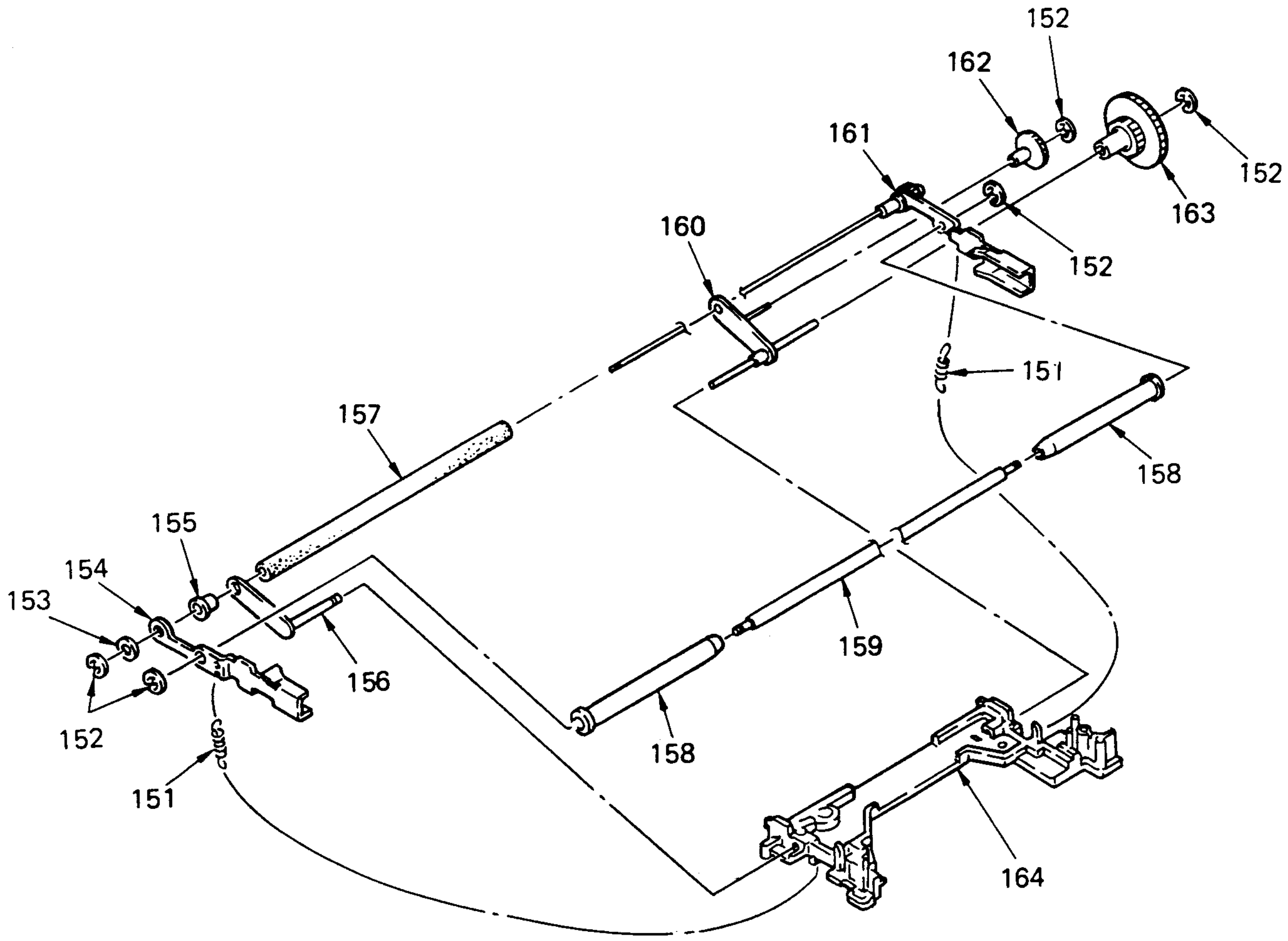
No.	Part No.	Description	Remarks
101	*3-333-092-01	BRACKET (S), PHOTO	
102	3-329-560-01	SCREW, M6	
103	*3-329-570-01	PLATE, SCREW	
104	X-3329-554-1	SCREW ASSY, FEED	
105	7-621-772-40	SCREW +B 2X8	
106	3-329-558-01	BEARING, MAIN ROLLER	
107	3-323-231-02	ROLLER (LOWER)	
108	X-3329-520-1	SHAFT (LOWER) ASSY, ROLLER	
109	3-329-553-01	SPRING, E	
110	3-321-813-11	WASHER, COTTER POLYETHYLENE	
111	3-329-555-11	GEAR (E), R	
112	*X-3329-522-1	LEVER ASSY, R	
113	*3-333-006-01	REINFORCEMENT	
114	7-621-770-67	SCREW +B 2.6X6	
115	*3-330-944-01	SPACER (LED)	
116	3-329-551-01	METAL, SHAFT	
117	*X-3329-565-1	CHASSIS ASSY, E	
118	7-685-132-19	SCREW +P 2.6X5 TYPE2 NON-SLIT	
119	*3-331-944-01	LEVER, SLIDE	
120	3-329-547-01	ROLLER, IDLE	
121	3-331-943-01	GEAR (F), R	
122	7-624-102-04	STOP RING 1.5, TYPE -E	
123	7-621-255-10	SCREW +P 2X3	
124	3-333-099-01	GEAR (A)	
125	3-895-818-01	WASHER, POLYETHYLENE, COTTER	
126	3-343-701-01	GEAR (B)	
127	3-831-441-11	CUSHION	
128	3-571-823-00	SPRING, TENSION	
129	3-333-098-01	SHAFT, DISK CHUCK	
130	*X-3329-566-1	STOPPER ASSY, CD	
131	3-535-369-XX	SPRING, TENSION	
132	3-343-718-01	BRACKET, DISK CHUCK	
133	3-343-717-01	PLATE (M), CHUCK	
135	7-621-255-25	SCREW +BVTT 2X4 (S)	
136	7-685-791-09	SCREW +BVTT 2.6X5 (S)	
137	7-624-104-04	STOP RING 2.0, TYPE -E	
907	*1-622-790-11	PC BOARD, MI	
908	*1-622-791-11	PC BOARD, CB	
909	*1-622-792-11	PC BOARD, DPT	
911	*1-622-794-11	PC BOARD, DOE	
912	*1-622-795-11	PC BOARD, LED	
915	1-623-640-11	PC BOARD, MD FLEXIBLE	
M2	X-3329-560-1	MOTOR ASSY, M2	

(4)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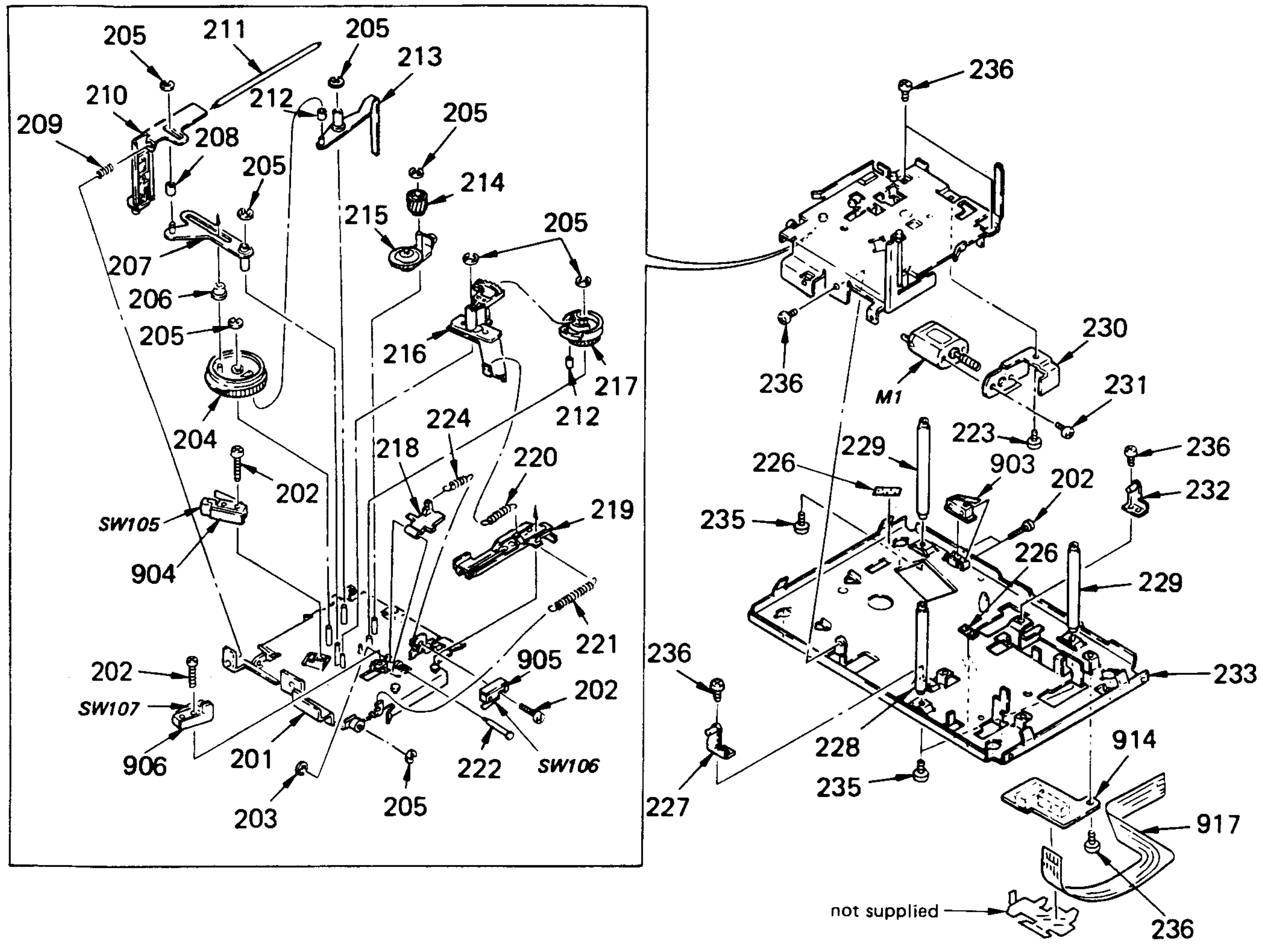
No.	Part No.	Description	Remarks
151	3-547-665-11	SPRING, TENSION	
152	7-624-102-04	STOP RING 1.5, TYPE -E	
153	3-310-958-00	WASHER (R)	
154	3-343-706-01	LINK, DISK	
155	*3-331-925-01	BEARING, ROLLER STOPPER	
156	*X-3329-517-1	LEVER (F) ASSY, LINK	
157	3-323-231-02	ROLLER (LOWER)	
158	X-3329-518-1	ROLLER (UPPER) ASSY	
159	*3-329-552-01	SHAFT, SIDE ROLLER	
160	*X-3329-516-1	LEVER (B) ASSY, LINK	
161	X-3329-561-1	SHAFT (UPPER) ASSY, ROLLER	
162	3-331-924-01	GEAR (G), ROLLER	
163	3-331-914-01	GEAR, ROLLER 3 STEP	
164	3-331-957-06	GUIDE, DISK	

(5)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not supplied
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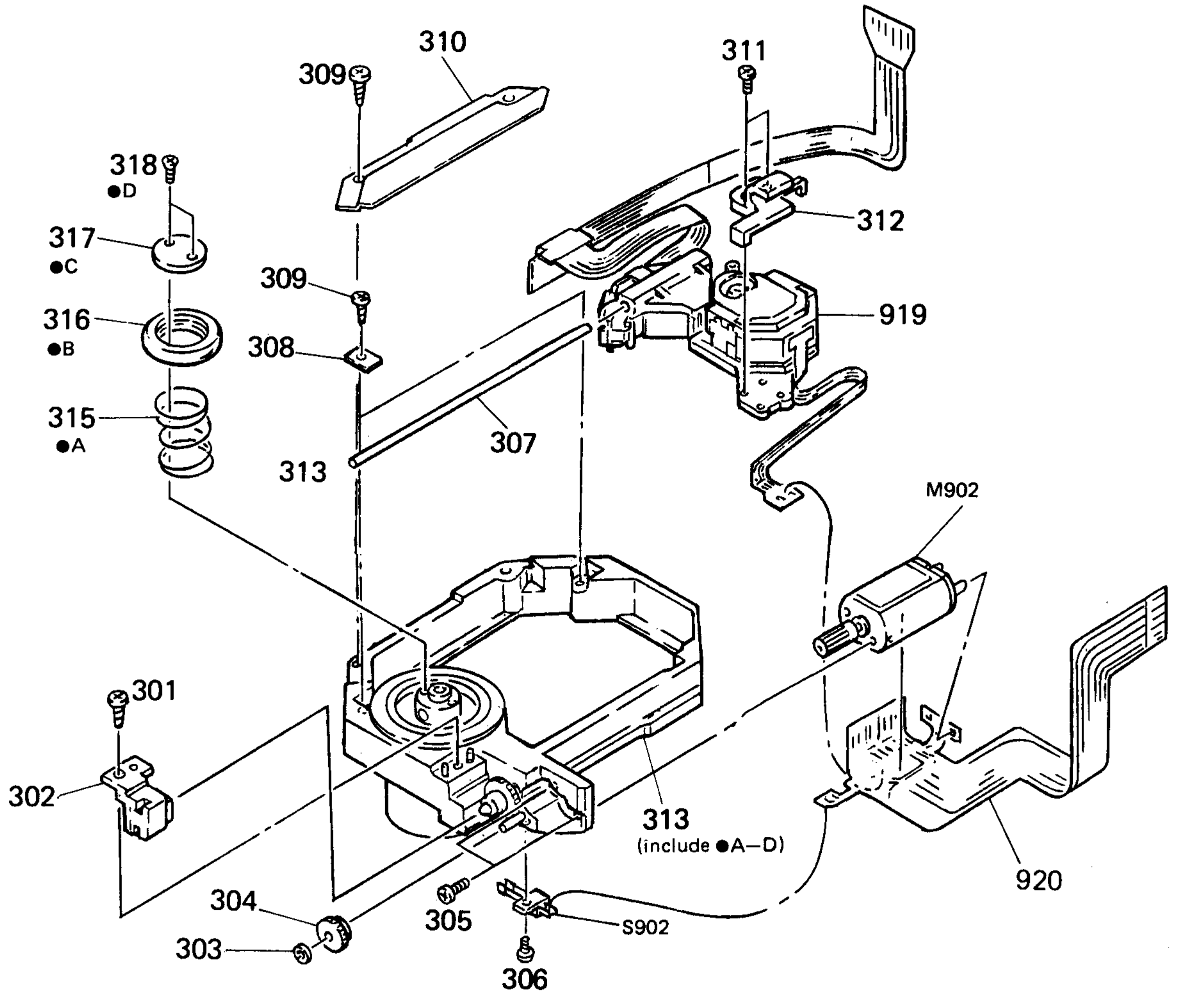
No.	Part No.	Description	Remarks
201	*X-3329-563-1	CHASSIS ASSY, PACK	
202	7-685-855-01	+BVTT 2X10 (S)	
203	7-624-102-04	STOP RING 1.5, TYPE -E	
204	X-3329-513-1	GEAR ASSY, CAM	
205	7-624-104-04	STOP RING 2.0, TYPE -E	
206	3-331-905-01	ROLLER (A)	
207	*X-3329-507-1	LEVER ASSY, LINEAR	
208	3-331-927-01	ROLLER, LINEAR LEVER	
209	3-568-315-01	SPRING, COMPRESSION	
210	X-3329-558-1	SLIDER ASSY, LINEAR	
211	3-331-904-01	SHAFT, LINEAR SLIDER	
212	3-329-580-01	ROLLER, CAM	
213	*X-3329-510-1	LEVER ASSY, SLIDER SET	
214	3-333-088-01	WHEEL, WORM	
215	X-3329-557-1	GEAR ASSY	
216	X-3329-511-1	LEVER ASSY, SOFT EJECT	
217	3-331-951-01	GEAR (2), EJECT CAM	
218	3-333-087-01	HOOK, BACK LOCK	
219	*3-331-913-01	EJECTOR (2), SOFT	
220	3-343-723-01	SPRING, TENSION	
221	3-634-191-XX	SPRING, TENSION	
222	*3-329-573-01	SHAFT, LOCK HOOK	

No.	Part No.	Description	Remarks
223	7-628-253-90	SCREW +PS 2.6X4	
224	3-535-369-XX	SPRING, TENSION	
226	3-831-441-11	CUSHION	
227	*X-3329-555-1	OPENER ASSY (A)	
228	*3-333-084-01	SHAFT (B), FIXED, E	
229	*3-333-083-01	SHAFT (A), FIXED, E	
230	*3-343-715-01	PLATE, FIXED, MOTOR	
231	7-621-775-00	SCREW +P 2.6X3	
232	*X-3329-556-1	OPENER ASSY (B)	
233	*X-3329-568-1	CHASSIS ASSY, BOTTOM	
235	7-682-546-09	SCREW +B 3X5	
236	7-685-791-09	SCREW +BVTT 2.6X5 (S)	
903	*1-617-987-12	PC BOARD, COMMON	
904	*1-622-787-11	PC BOARD, LOT	
905	*1-622-788-11	PC BOARD, PS	
906	*1-622-789-11	PC BOARD, EJ	
914	*1-622-797-11	PC BOARD, TRANSLATION	
915	1-623-640-11	PC BOARD, MD FLEXIBLE	
SW105	1-570-504-11	SWITCH, MICRO (LOT)	
SW106	1-570-504-11	SWITCH, MICRO (PST)	
SW107	1-570-504-11	SWITCH, MICRO (EJECT)	
M1	X-3329-571-2	MOTOR ASSY	

(6) OPTICAL PICK-UP BLOCK (KSM-160BAN)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307
313
M902
301
302
313
(include ●A–D)
304
305
S902
303
306
920

No.	Part No.	Description	Remarks
301	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
302	X-2640-611-1	RETAINER ASSY, THRUST	
303	3-321-813-01	WASHER, COTTER POLYETHYLENE	
304	2-640-625-02	GEAR (B)	
305	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
306	2-640-620-03	SCREW (B) (1.4X3), TAPPING	
307	2-640-632-01	SHAFT, GUIDE	
308	2-640-645-01	RETAINER, GUIDE SHAFT	
309	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT	
310	2-640-623-01	COVER, MD	

No.	Part No.	Description	Remarks
311	7-627-852-17	+P 1.7X4	
312	2-640-654-03	GUIDE (D), FEED	
313	A-4910-196-A	SCREW BLOCK ASSY, SLED MD	
315	2-640-617-02	SPRING, COMPRESSION	
316	2-640-650-02	STOPPER, RING	
317	2-643-418-01	RING, CENTER	
318	7-627-451-17	SCREW, PRECISION +K 1.4X2.5	
919	⚠8-848-067-01	PICKUP, OPTICS KSS-160B	
920	1-630-551-11	PC BOARD, ML2 FLEXIBLE	
M902	A-4910-100-B	GEAR ASSY, SLED MOTOR	
S902	1-554-938-11	SWITCH, LEAF	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 7

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
901	*A-3265-018-A	MOUNTED PCB, JACK			
902	*A-3265-019-A	MOUNTED PCB, RF			
903	*1-617-987-12	PC BOARD, COMMON			
904	*1-622-787-11	PC BOARD, LOT			
905	*1-622-788-11	PC BOARD, PS			
906	*1-622-789-11	PC BOARD, EJ			
907	*1-622-790-11	PC BOARD, MI			
908	*1-622-791-11	PC BOARD, CB			
909	*1-622-792-11	PC BOARD, DPT			
910	*1-622-793-11	PC BOARD, EHS			
911	*1-622-794-11	PC BOARD, DOE			
912	*1-622-795-11	PC BOARD, LED			
913	*1-622-796-11	PC BOARD, EJECT			
914	*1-622-797-11	PC BOARD, TRANSLATION			
915	1-623-640-11	PC BOARD, MD FLEXIBLE			
916	1-623-641-11	PC BOARD, RF FLEXIBLE			
917	1-623-642-11	PC BOARD, TRANSLATION FLEXIBLE			
918	1-559-439-11	CORD (WITH CONNECTOR)			
919	⚠8-848-067-01	PICKUP, OPTICS KSS-160B			
920	1-630-551-11	PC BOARD, ML2 FLEXIBLE			
C1	1-163-078-11	CERAMIC CHIP	0.033MF	10%	25V
C2	1-126-177-11	ELECT	100MF	20%	6.3V
C3	1-163-078-11	CERAMIC CHIP	0.033MF	10%	25V
C4	1-163-059-00	CERAMIC CHIP	0.01MF	10%	50V
C5	1-126-177-11	ELECT	100MF	20%	6.3V
C6	1-126-154-11	ELECT	47MF	20%	6.3V
C7	1-124-442-00	ELECT	330MF	20%	6.3V
C8	1-163-062-00	CERAMIC CHIP	0.018MF	10%	50V
C9	1-126-177-11	ELECT	100MF	20%	6.3V
C10	1-124-465-00	ELECT	0.47MF	20%	50V
C11	1-163-059-00	CERAMIC CHIP	0.01MF	10%	50V
C12	1-163-062-00	CERAMIC CHIP	0.018MF	10%	50V
C13	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C14	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C15	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C16	1-124-442-00	ELECT	330MF	20%	6.3V
C17	1-124-442-00	ELECT	330MF	20%	6.3V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C19	1-126-162-11	ELECT	3.3MF	20%	35V
C20	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C21	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C22	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C23	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C24	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C25	1-124-257-00	ELECT	2.2MF	20%	50V
C26	1-163-076-00	CERAMIC CHIP	0.068MF		50V
C27	1-126-177-11	ELECT	100MF	20%	6.3V
C28	1-126-177-11	ELECT	100MF	20%	6.3V
C29	1-127-489-00	ELECT(SOLID)	10MF	20%	6.3V
C30	1-163-037-00	CERAMIC CHIP	0.022MF	10%	50V
C31	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C32	1-163-078-11	CERAMIC CHIP	0.033MF	10%	25V
C33	1-124-465-00	ELECT	0.47MF	20%	50V
C34	1-126-154-11	ELECT	47MF	20%	6.3V
C35	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C37	1-126-160-11	ELECT	1MF	20%	50V
C38	1-126-160-11	ELECT	1MF	20%	50V
C39	1-127-489-00	ELECT(SOLID)	10MF	20%	6.3V
C40	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C41	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C44	1-164-159-00	CERAMIC	0.1MF		
C47	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C48	1-124-442-00	ELECT	330MF	20%	6.3V
C49	1-124-442-00	ELECT	330MF	20%	6.3V
C50	1-127-489-00	ELECT(SOLID)	10MF	20%	6.3V
C51	1-124-987-11	ELECT	3300MF	20%	6.3V
C52	1-124-987-11	ELECT	3300MF	20%	6.3V
C53	1-124-442-00	ELECT	330MF	20%	6.3V
C55	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C56	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C58	1-126-160-11	ELECT	1MF	20%	50V
C59	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C60	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C101	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C102	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C103	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C104	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C105	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C106	1-124-968-11	ELECT	22MF	20%	6.3V
C107	1-163-191-00	CERAMIC CHIP	270PF	5%	50V
C201	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C202	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C203	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C204	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C205	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C206	1-124-968-11	ELECT	22MF	20%	6.3V
C207	1-163-191-00	CERAMIC CHIP	270PF	5%	50V
C301	1-124-442-00	ELECT	330MF	20%	6.3V
C302	1-123-612-00	ELECT	2.2MF	20%	50V
C303	1-123-612-00	ELECT	2.2MF	20%	50V
C304	1-123-612-00	ELECT	2.2MF	20%	50V
C305	1-123-612-00	ELECT	2.2MF	20%	50V
C306	1-101-005-00	CERAMIC	0.022MF		25V

Ref.No.	Part No.	Description			
C501	1-136-165-00	FILM	0.1MF	5%	50V
C502	1-136-165-00	FILM	0.1MF	5%	50V
C503	1-124-455-00	ELECT	100MF	20%	16V
C505	1-163-055-00	CERAMIC CHIP	0.0047MF	10%	50V
C506	1-126-157-11	ELECT	10MF	20%	6.3V
C507	1-124-225-00	ELECT	100MF	20%	6.3V
C508	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
C511	1-126-160-11	ELECT	1MF	20%	50V
C512	1-124-465-00	ELECT	0.47MF	20%	50V
C513	1-136-165-00	FILM	0.1MF	5%	50V
C542	1-124-455-00	ELECT	100MF	20%	16V
C543	1-136-165-00	FILM	0.1MF	5%	50V
C546	1-127-489-00	ELECT(SOLID)	10MF	20%	6.3V
C547	1-125-486-11	CAP,DOUBLE LAYERS	0.22F		5.5V
C548	1-136-165-00	FILM	0.1MF	5%	50V
C549	1-124-229-00	ELECT	33MF	20%	6.3V
C551	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C552	1-136-165-00	FILM	0.1MF	5%	50V
C701	1-136-165-00	CAP, METALIZED FILM	0.1MF		
C703	1-126-160-11	ELECT	1MF	20%	50V
C705	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
C706	1-126-247-11	ELECT	560MF	20%	6.3V
C707	1-126-247-11	ELECT	560MF	20%	6.3V
C710	1-124-119-00	ELECT	330MF	20%	16V
C718	1-126-157-11	ELECT	10MF	20%	6.3V
C719	1-124-229-00	ELECT	33MF	20%	6.3V
C720	1-124-755-00	ELECT	3300MF	20%	16V
C721	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
CN301	1-506-914-11	PIN, CONNECTOR 2P			
CNJ1	*1-566-776-11	SOCKET, CONNECTOR 12P			
CNJ2	*1-568-509-11	HOUSING, CONNECTOR 11P			
CNJ4	*1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ401	*1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ402	*1-566-888-11	SOCKET, CONNECTOR 10P			
CNJ501	1-566-907-11	PIN, CONNECTOR 18P			
CNJ502	*1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ503	*1-566-887-11	SOCKET, CONNECTOR 18P			
CNJ504	*1-563-912-11	SOCKET, CONNECTOR 4P			
CNP201	*1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP401	*1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP402	*1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP403	*1-506-984-31	PIN, CONNECTOR (PC BOARD) 2P			
CNP404	*1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP405	*1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP406	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP408	*1-564-012-11	PIN, CONNECTOR 2P			
CNP409	1-506-467-11	PIN, CONNECTOR 2P			
CNP410	1-506-467-11	PIN, CONNECTOR 2P			
CNP411	*1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP412	*1-506-999-11	PIN, CONNECTOR (PC BOARD) 3P			
D1	8-719-100-03	DIODE 1S2835			
D301	8-719-100-03	DIODE 1S2835			
D302	8-719-100-05	DIODE 1S2837			
D303	8-719-911-19	DIODE 1SS119			
D401	8-719-812-31	DIODE TLR123			
D402	8-719-812-31	DIODE TLR123			

Ref.No.	Part No.	Description			
D403	8-719-100-03	DIODE 1S2835			
D404	8-719-100-03	DIODE 1S2835			
D405	8-719-100-03	DIODE 1S2835			
D501	8-719-110-12	DIODE RD9.1ES-B1			
D502	8-719-109-93	DIODE RD6.2ES-B2			
D503	8-719-100-03	DIODE 1S2835			
D505	8-719-100-03	DIODE 1S2835			
D507	8-719-109-85	DIODE RD5.1ES-B2			
D508	8-719-911-19	DIODE 1SS119			
D509	8-719-110-35	DIODE RD13ES-B1			
D511	8-719-109-85	DIODE RD5.1ES-B2			
D512	8-719-109-85	DIODE RD5.1ES-B2			
D513	8-719-109-85	DIODE RD5.1ES-B2			
D514	8-719-109-85	DIODE RD5.1ES-B2			
D515	8-719-109-86	DIODE RD5.1ES-B2			
D516	8-719-109-85	DIODE RD5.1ES-B2			
D518	8-719-911-19	DIODE 1SS119			
D703	8-719-801-67	DIODE DLS1585			
D704	8-719-910-62	DIODE HZ6A2L			
D705	8-719-109-93	DIODE RD6.2ES-B2			
D706	8-719-109-85	DIODE RD5.1ES-B2			
D707	8-719-110-48	DIODE RD18ES-B1			
D708	8-719-801-67	DIODE DLS1585			
D709	8-719-109-85	DIODE RD5.1ES-B2			
D710	8-719-801-67	DIODE DLS1585			
DD1	1-464-848-11	CONVERTER UNIT, DC-DC			
IC1	8-752-033-14	IC CXA1081Q			
IC2	8-752-032-32	IC CXA1182Q-Z			
IC3	8-752-328-62	IC CXD1125Q			
IC4	8-759-981-37	IC MB88505H-1023M			
IC5	8-759-821-58	IC LA-6530			
IC6	8-752-323-65	IC CXK5816M-15L			
IC7	8-759-946-27	IC CXD1316DM			
IC301	8-759-805-33	IC CXD1161M-2			
IC302	8-759-100-96	IC UPC4558G2			
IC303	8-759-802-48	IC LA6462M			
IC501	8-759-802-32	IC LB1649			
IC502	8-759-940-45	IC S-8054HN-CB-S			
IC503	8-757-991-00	IC CX-7991			
IC505	8-759-112-05	IC UPD7508HG-593-22			
IC507	8-759-802-32	IC LB1649			
JR1	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR2	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR51	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR550	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR551	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR552	1-216-296-00	METAL GLAZE	0	5%	1/8W
L1	1-410-501-11	INDUCTOR	2.2UH		
L3	1-410-501-11	INDUCTOR	2.2UH		
L4	1-410-316-11	INDUCTOR	1UH		
L7	1-410-196-11	INDUCTOR CHIP	2.2UH		
L8	1-410-196-11	INDUCTOR CHIP	2.2UH		
L10	1-410-501-11	INDUCTOR	2.2UH		
L11	1-410-196-11	INDUCTOR CHIP	2.2UH		
L101	1-410-196-11	INDUCTOR CHIP	2.2UH		
L201	1-410-196-11	INDUCTOR CHIP	2.2UH		

Ref.No.	Part No.	Description			
L301	1-410-196-11	INDUCTOR CHIP	2.2UH		
L501	1-410-501-11	INDUCTOR	2.2UH		
L504	1-410-501-11	INDUCTOR	2.2UH		
L505	1-410-501-11	INDUCTOR	2.2UH		
L506	1-410-501-11	INDUCTOR	2.2UH		
L507	1-410-501-11	INDUCTOR	2.2UH		
M1	X-3329-571-1	M1 MOTOR ASSY			
M2	X-3329-560-1	MOTOR ASSY, M2			
M3	1-541-309-11	MOTOR, L (RF-370C)			
M902	A-4910-100-B	GEAR ASSY, SLED MOTOR			
Q1	8-729-804-42	TRANSISTOR 2SB1122-T			
Q2	8-729-106-60	TRANSISTOR 2SB1115A			
Q3	8-729-808-02	TRANSISTOR 2SD1622-R-TC			
Q4	8-729-106-60	TRANSISTOR 2SB1115A			
Q5	8-729-808-02	TRANSISTOR 2SD1622			
Q6	8-729-901-00	TRANSISTOR DTC124EK			
Q8	8-729-271-22	TRANSISTOR 2SC2712G			
Q9	8-729-900-53	TRANSISTOR DTC114EK			
Q10	8-729-901-01	TRANSISTOR DTC144EK			
Q101	8-729-202-38	TRANSISTOR 2SC3326N			
Q201	8-729-202-38	TRANSISTOR 2SC3326N			
Q301	8-729-901-05	TRANSISTOR DTA124EK			
Q302	8-729-901-00	TRANSISTOR DTC124EK			
Q303	8-729-805-67	TRANSISTOR 2SA1342			
Q304	8-729-901-00	TRANSISTOR DTC124EK			
Q305	8-729-901-00	TRANSISTOR DTC124EK			
Q401	8-729-110-21	TRANSISTOR PH102-L			
Q402	8-729-110-21	TRANSISTOR PH102-L			
Q403	8-719-906-43	DIODE GP-1S03			
Q502	8-729-216-22	TRANSISTOR 2SA1162			
Q505	8-729-216-22	TRANSISTOR 2SA1162			
Q506	8-729-216-21	TRANSISTOR 2SA1162Y			
Q511	8-729-805-67	TRANSISTOR 2SA1342			
Q512	8-729-901-00	TRANSISTOR DTC124EK			
Q513	8-729-805-67	TRANSISTOR 2SA1342			
Q514	8-729-271-23	TRANSISTOR 2SC2712Y			
Q515	8-729-805-67	TRANSISTOR 2SA1342			
Q516	8-729-271-23	TRANSISTOR 2SC2712Y			
Q517	8-729-805-67	TRANSISTOR 2SA1342			
Q518	8-729-901-00	TRANSISTOR DTC124EK			
Q519	8-729-901-00	TRANSISTOR DTC124EK			
Q520	8-729-805-67	TRANSISTOR 2SA1342			
Q523	8-729-271-22	TRANSISTOR 2SC2712G			
Q524	8-729-805-67	TRANSISTOR 2SA1342			
Q704	8-729-901-00	TRANSISTOR DTC124EK			
Q705	8-729-804-42	TRANSISTOR 2SB1122-T			
Q706	8-729-271-22	TRANSISTOR 2SC2712G			
Q707	8-729-808-02	TRANSISTOR 2SD1622			
Q710	8-729-900-53	TRANSISTOR DTC114EK			
R1	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3	1-216-151-00	METAL GLAZE	11	5%	1/8W
R4	1-216-151-00	METAL GLAZE	11	5%	1/8W
R5	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R6	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R7	1-216-076-00	METAL GLAZE	13K	5%	1/10W
R8	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R9	1-216-074-00	METAL GLAZE	11K	5%	1/10W

Ref.No.	Part No.	Description			
R10	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R11	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R13	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R14	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R15	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R16	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R17	1-216-266-00	METAL GLAZE	680K	5%	1/10W
R18	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R19	1-216-107-00	METAL GLAZE	270K	5%	1/10W
R20	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R21	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R22	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R23	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R24	1-216-080-00	METAL GLAZE	20K	5%	1/10W
R25	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R27	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R28	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R29	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R40	1-216-024-00	METAL GLAZE	91	5%	1/10W
R41	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R42	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R43	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R44	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R45	1-247-783-00	CARBON	10	5%	1/4W
R50	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R51	1-214-804-11	METAL	3.3	1%	1/2W
R52	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R53	1-216-138-00	METAL GLAZE	3.3	5%	1/8W
R55	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R56	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R58	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R100	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R101	1-216-288-11	METAL GLAZE	5.6M	5%	1/8W
R102	1-216-680-11	METAL CHIP	16K	0.50%	1/10W
R103	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R104	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R105	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R106	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R107	1-216-001-00	METAL GLAZE	10	5%	1/10W
R108	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R109	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R110	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R112	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R200	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R201	1-216-288-11	METAL GLAZE	5.6M	5%	1/8W
R202	1-216-680-11	METAL CHIP	16K	0.50%	1/10W
R203	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R204	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R205	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R206	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R207	1-216-150-00	METAL GLAZE	10	5%	1/8W
R208	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R209	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R210	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R212	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R301	1-216-039-00	METAL GLAZE	390	5%	1/10W
R304	1-216-097-00	METAL GLAZE	100K	5%	1/10W

Ref.No.	Part No.	Description			
R305	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R307	1-216-150-00	METAL GLAZE	10	5%	1/8W
R308	1-216-150-00	METAL GLAZE	10	5%	1/8W
R401	1-216-182-00	METAL GLAZE	220	5%	1/8W
R402	1-216-182-00	METAL GLAZE	220	5%	1/8W
R403	1-216-182-00	METAL GLAZE	220	5%	1/8W
R502	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R503	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R506	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R507	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R508	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R516	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R518	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R519	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R520	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R521	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R530	1-216-182-00	METAL GLAZE	220	5%	1/8W
R531	1-249-417-11	CARBON	1K	5%	1/4W
R532	1-247-903-00	CARBON	1M	5%	1/4W
R533	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R534	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R535	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R536	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R537	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R540	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R541	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R542	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R543	1-249-417-11	CARBON	1K	5%	1/4W
R544	1-216-025-00	METAL GLAZE	100	5%	1/10W
R545	1-216-025-00	METAL GLAZE	100	5%	1/10W
R704	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R705	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R706	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R707	1-216-190-00	METAL GLAZE	470	5%	1/8W
R708	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R709	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R710	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R711	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R713	1-214-792-00	METAL	1	1%	1/2W
RV1	1-228-995-00	RES, ADJ, CARBON 22K			
RV2	1-228-996-00	RES, ADJ, CARBON 47K			
RV3	1-228-995-00	RES, ADJ, CARBON 22K			
RV4	1-228-995-00	RES, ADJ, CARBON 22K			
RV5	1-228-991-00	RES, ADJ, CARBON 2.2K			

Ref.No.	Part No.	Description
RY300	1-515-614-11	RELAY
S902	1-554-938-11	SWITCH, LEAF
SW101	1-554-813-41	SWITCH, KEY BOARD
SW102	1-570-503-11	SWITCH, MICRO (CBP)
SW103	1-570-502-11	SWITCH, MICRO (MI)
SW104	1-570-504-11	SWITCH, MICRO (HOME)
SW105	1-570-504-11	SWITCH, MICRO (LOT)
SW106	1-570-504-11	SWITCH, MICRO (PST)
SW107	1-570-504-11	SWITCH, MICRO (EJECT)
TH1	1-807-776-11	THERMISTOR ERT-D2FHJ802T
TH2	1-807-776-11	THERMISTOR ERT-D2FHJ802T
THP501	1-807-368-11	THERMISTOR PTH59F04BG222TS
X2	1-567-820-11	VIBRATOR, CRYSTAL 16MHz
X501	1-567-775-11	VIBRATOR, CERAMIC 4.19MHz

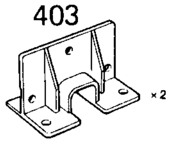
ACCESSORY & PACKING MATERIAL

1-559-438-14	(AEP)..........CORD (WITH CONNECTOR)
1-559-438-71	(US,Canadia)...CORD (WITH CONNECTOR)
3-343-733-01	CUSHION (LOWER)
3-343-734-01	CUSHION (UPPER)
3-343-750-11	(US,AEP)...BRACKET
*3-348-761-01	INDIVIDUAL CARTON
3-750-116-11	(US,Canadian,AEP)...MANUAL, INSTRUCTION
3-750-116-41	(AEP,WG,E)..........MANUAL, INSTRUCTION
7-688-005-01	W 5, SMALL
7-684-025-04	N 5, TYPE 2
A-3209-209-A	PRINTS ASSY
A-4675-162-B	MAGAZINE ASSY
X-2114-001-1	HOLDER ASSY, CD BOOKLET

MOUNTING HARDWARE

No.	Part No.	Description
401	X-3329-570-1	SCREW ASSY
402	X-3329-574-1	BRACKET ASSY
403	3-333-076-11	BRACKET, MAIN

403



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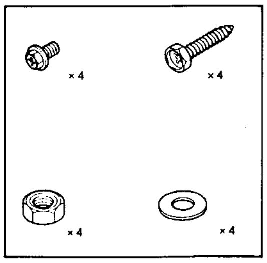
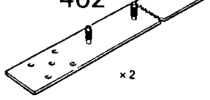


402



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